



**Tasmanian Small  
Business Council**

Uniting Small Business

# Tasmanian Energy Security Taskforce

Response to Taskforce's Consultation Paper

Tasmanian Small Business Council

16 September 2016



**Goanna Energy**  
Consulting  Pty Ltd

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This project was funded by Energy Consumers Australia (<http://www.energyconsumersaustralia.com.au>) as part of its grants process for consumer advocacy projects and research projects for the benefit of consumers of electricity and natural gas. The views expressed in this document do not necessarily reflect the views of the Energy Consumers Australia.

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# REPORT HIGHLIGHTS

- Executive Summary

1. Approach Adopted for Submission
2. Scope of TSBC Study
3. Current Status of Energy Security in Tasmania
4. Response to Questions in the Consultation Paper
5. Recommendations

## Executive Summary

### Approach Adopted for Submission

Given the importance of energy security to the State of Tasmania, the the Tasmanian Small Business Council (TSBC) elected to participate in the Tasmanian Energy Security Taskforce by:

1. Preparing this submission on behalf of the TSBC; and
2. Contributing towards the development of the Energy Crisis Market Review by partnering with Goanna Energy Consulting and the Tasmanian Minerals and Energy Council

This document represents the views of the TSBC, whilst the Energy Crisis Market Review is considered helpful in the industry's understanding of the events leading up to the Energy Crisis so that learnings may be extracted to aid the Taskforce's objectives of addressing system security. The Market Review is an energy specialist research document, and therefore at times reaches beyond the natural area of expertise of the TSBC. Consequently, whilst the TSBC is supportive in having the Market Review presented to the Taskforce and placed in the public domain, the TSBC is not the most qualified organisation to promote the findings and recommendations.

### Scope of TSBC Study

The Tasmanian Small Business Council (TSBC) welcomes the formation of the Tasmanian Energy Security Taskforce (the Taskforce) and the opportunity to provide this submission in response to its Consultation Paper, coming as it does after the major threat to energy security experienced in Tasmania from December 2015 until March 2016.

The energy security threat was a major concern to small business, which relies on electricity to conduct its operations, even though the Energy Supply Plan adopted by the Government and Hydro Tasmania meant that power supply continued uninterrupted. The spectacle of the State relying on 200 portable diesel generators, normally used to power remote mines, to maintain electricity supplies, was unedifying and would have damaged Tasmania's reputation as a place to do business. We welcome that the Government wishes to ensure that a similar threat is never repeated again.

There are over 37,000 small businesses in Tasmania, employing over 70,000 people. TSBC provides the representative voice of these businesses.

Around 28,000 Tasmanian small businesses are connected to the electricity grid and nearly 800 are connected to the natural gas network. They consume around 120 GWh of electricity annually and 350 Tj of natural gas. Small business is reliant on continuous and secure supplies of energy. Without it they have difficulty operating, the consequence of which is a loss of business, cash flow, employment opportunities and ultimately a threat to their viability. Some are relatively intensive in their use of energy and some others are exposed to competition from interstate or international markets. All have already seen large increases in their electricity and gas bills, many are potentially penalised by electricity cross-subsidies and some pay among the nation's highest gas prices. They do not wish to see energy security measures become another source of energy price pressures. The trick is to deliver energy security in the least costly way possible.

The recent energy emergency was managed through the Energy Supply Plan and avoided load shedding, but this came at a high cost with Hydro Tasmania estimating its net costs to date, between \$140 and \$180 million. Is it possible that steps could have been taken to avoid the emergency or that its costs could have been contained through an effective contingency plan developed in advance?

Small business was impacted. Fears were experienced about the continuity of electricity supply and some businesses on market contracts, or exposed to the spot market, saw their electricity costs skyrocket. Tasmania's reputation has been tarnished and its ability to attract more businesses through an energy advantage (a key plank of the State Energy Strategy) has been dealt a blow. This situation needs to be recovered.

A key outcome for the Taskforce should be that the risks of a repeat are minimised. This does not need to be costly, but rather can rely on better risk assessments of energy in storage and adopting energy security solutions based on implementing least cost options.

Our submission provides small business focused answers to all questions raised in the Consultation Paper and discusses two key issues not raised therein. We believe that the latter need to be considered if the Taskforce is to provide robust advice to the Government.

## Current Status of Energy Security in Tasmania

Turning first to the matters not raised in the Consultation Paper, achieving energy security in the long term requires planning, which includes appropriate risk management. This needs to take account of a range of factors, including:

1. forecast load and all generation options available to meet that load;
2. the time required to build large scale generation and interconnector options;
3. consideration of a range of foreseeable scenarios (e.g. loss of a major industrial customer, the impact of local generation, demand response, emerging technology);
4. planning to deal with major, credible, contingency events (events which can reasonably be expected to occur, but with a low probability) such as:
  - loss of major electricity supply components (e.g. inadequate hydro energy in storage, Basslink or gas generation outages);
  - loss of major electricity transmission components; and
  - loss of the gas transmission pipeline.

Load shedding, other than in the very short term, represents a lack of energy security.

The Government, in its Energy Strategy, notes that: *"A secure energy supply is fundamental to both the wellbeing of Tasmanians and on-island economic activity, and maintaining energy security is a key responsibility for the Government."* Investment in major, significant assets by successive governments, including the Tamar Valley Power Station (TVPS), has enabled this responsibility to be met.

The threat to energy security began on 20 December 2015 with the Basslink outage. The other main underlying contributing factors were an extended period of below average rainfall, resulting in depleted hydro storages, and an apparent lack of adequate contingency planning.

Under the Energy Supply Plan, the Government and Hydro Tasmania initiated a range of actions to reduce the dependence on available on-island generation, being hydro and wind generation, in order to avoid the need for forced load shedding.

However, hydro storage levels fell to a historic low of 12.8 per cent in April 2016, before solid autumn rains and the restoration of the Basslink in June 2016 saw storage levels rise.

Statements concerning the cause of the energy security threat have invariably referred to the combination of unforeseen low hydro storages and the failure of the Basslink interconnector. The TSBC contends that the Taskforce needs to establish if those events merely contributed to the threat, or were entirely foreseeable and were “credible contingency events”, that is, events which are unlikely but may occur, and must be prepared for. Such events should have formed part of long term energy planning and risk management. The Market Review report addresses these issues.

It should also determine if decisions by the Government and Hydro Tasmania, such as approving the sale of the Tamar Valley Power Station (TVPS) in August 2015 demonstrates a shift in focus from energy security to cash returns, given that the primary reason for its acquisition was the former.

The gas and electricity (energy) markets in Tasmania are closely linked, not the least by way of the gas fired TVPS and the associated gas supply contract.

Both gas or electricity markets should demonstrate a commitment to long term security of supply. A comprehensive review of the Tasmanian gas market was recently undertaken by Goanna Energy, at the request of the TSBC. The review identified issues relevant to long term gas supply security, especially reliance on a single, undersea pipeline, high dependence on the TVPS contract and lack of market growth putting the gas market at risk of failure.

The Taskforce needs to establish why an urgent, short term, unplanned response was required in order to manage the impact of the two credible contingency events. For example, does this indicate a lack of long term contingency planning for electricity security?

The TSBC contends that achieving energy security is not a stand-alone activity. It is part of the long term policy setting and planning of the Government; direction setting of the state owned energy businesses by the Government; and the long term strategic planning processes for those businesses involved in the Tasmanian electricity and gas supply markets.

TSBC notes the extensive section in the Expert Panel’s report devoted to hydrological risk management (Appendix 3, 14 pages). Of particular note is the following comment (p. 279):

*“Since 2001, Hydro Tasmania’s Ministerial Charter has required it to demonstrate the prudent management of its water storages. On the joining the NEM, Hydro Tasmania’s Prudent Water Management (PWM) obligation became the basis on which to advise the Government of emerging issues in the hydro system.*

*Hydro Tasmania’s PWM policy (see Figure 1.4) uses a series of ‘triggers’ to indicate the increasing risk to security of supply, based on risk levels associated with water levels and potential contingency events, which include a major Basslink outage or major hydro-plant failure. Under the PWM policy, storage management rules are designed to manage storages through low inflow periods.*

*The PWM defines a preferred seasonal minimum operating level and then medium, high and extreme risk zones. These risk zones indicate an increasing risk of supply failure, with the extreme case having both a higher probability of load curtailment, as well as significant environmental consequences. ...*

*Hydro Tasmania also defines a shortfall index based on the number of days that load can be met in circumstances that:*

- *Basslink is not available;*
- *there is no generation from wind or thermal production; and*
- *inflows are very low.*

*As this index falls, various actions are undertaken to address the commensurate increase in risk, including communication with stakeholders to allow external responses, if required. An index of 60 days or greater indicates that there are no material issues with meeting demand.”*

The Panel’s report further noted (page 232):

*“Aurora Energy’s acquisition (in 2008), completion and operation of the TVPS (Tamar Valley Power Station) was undertaken as an energy supply security measure, at the direction of the Government and in the context of a unique set of unforeseen hydrological and global financial circumstances.”*

And at page 133, volume 2 the Panel says:

*“Were circumstances to change – for example were the types of low probability scenarios contemplated by the Government at the time of its decision to acquire the TVPS to emerge (critically low water storages and a sustained outage of Basslink over several months), the market prices would rise very significantly, providing a funding mechanism to support the production and capital costs of the TVPS.”*

It is noted that the lack of availability of the TVPS output should have resulted in a revision of the PWM policy, which when implemented would be expected to have flagged the need for the reinstatement of the TVPS given the extent of storage declines during 2015.

The TSBC suggests that a key outcome for the Taskforce would be to review the PWM policy and its application in relation to both the energy supply threats of 2016 and future management of hydrological risk; and to require its updating as needed.

The next section of our submission summaries our response to the explicit questions posed by the Taskforce in the Consultation Paper.

## Response to Questions in the Consultation Paper

The submission also provides responses to each question raised in the Consultation Paper.

**Question 1** concerns the risks to energy security. We set out numerous risks that we believe the Taskforce need to consider. These include: the hydrological risks to Tasmania's hydro-electric system; how these are managed; the risk of conflicts between Hydro Tasmania's commercial focus as a government business and its obligation for prudent water management (PWM); the need to consider the role and relative costs of the TVPS and renewable energy (including wind generation) in energy security settings; the role and costs of interconnectors, including Basslink and its risk of failing again, as well as the option of building a second Bass Strait link (which would be costly and take a long time); risks at the electricity transmission and distribution level; the lack of maturity of and competition in the Tasmanian energy market, including a lack of competing generators; the role that the gas market in providing an alternative source of energy should play; the susceptibility of Tasmanian gas supplies to a single source of gas through the pipeline to Victoria; changes in rainfall patterns and how these is included in the PWM policy; and the role of national and state emergency management procedures.

In response to **Questions 2 and 3**, we note that small business supports a high level of energy security but is unlikely to support costly, or gold plated, measures to improve energy security, especially given that energy costs have already risen substantially with business competitiveness being eroded. However, we do not believe that costly measures are needed. Rather, small business wants transparent, cost effective solutions based on least cost. Small businesses also have limited ability to manage without supply. Consumers will have different views on what level of energy security is needed, but as energy tends to be delivered as a homogeneous product making differentiation of individual consumer preferences on energy security more difficult.

Regarding understanding of energy security risks and communicating them (**Question 4**), these matters are complex and we believe therefore not well understood. Ultimately, the community may be more interested in knowing that they are being handled well and cost effectively, and well communicated. The recent threat appears to have been a mixture of positives and negatives, with high level involvement and the Energy Supply Plan welcomed but initially offset by both an apparent lack of preparedness and limited communications.

We believe that the Taskforce needs to start with a thorough and robust assessment of Tasmania's existing energy security framework (**Question 5**). We have no reason to suspect that it is seriously deficient, but the recent energy security scare seems to have exposed gaps and areas in need of improvement. This should clearly be a role of the Taskforce. Its formation and Terms of Reference suggest that this is also what the Government intends.

**Question 6** sought comments on the potential energy security solutions for consideration by the Taskforce. We have focused particularly on dealing with the five credible energy contingencies discussed in Section 3.8 of the submission, namely, maintaining the level of hydro storages, loss of Basslink, loss of the TVPS, loss of the gas transmission pipeline and a major electricity transmission outage. Given the low growth in demand for electricity, it is difficult to see why a combination of hydro, Basslink, wind, DSR and TVPS cannot meet projected demand with a sufficient buffer to cover at least two of the five credible contingent events. We



have also raised the need to consider the on-island transmission system, potential cross-subsidies in Tasmanian electricity tariffs and other potential distortions in these tariffs.

**Questions 7 and 8** relate to the water management practices of Hydro Tasmania. We support the Taskforce's intention to compare Hydro Tasmania's practices internationally. Regarding governance, we have suggested that the Taskforce needs to carefully examine Hydro Tasmania's water management decisions in the carbon price period and in the lead up to the recent energy emergency. It is possible that its commercial imperatives conflicted with its water management obligations. We also suggest that the Taskforce consider a range of options for governance ranging from improvements to existing arrangements to minimise the risk of repeat situations, to ring fencing of Hydro Tasmania's water management obligations from its commercial ones, to separation of these functions into separate entities, with also possibly separating its electricity trading functions into three entities, as previously recommended by the Expert Panel.

The impact on energy security of a second interconnector across Bass Strait is raised in **Question 9**. Whilst this may have energy security benefits, they would seem to come at a high cost and would not be realised for a long time (around a decade). As uncertainties still surround such a link and as these are not likely to be resolved within the Taskforce's life, this further diminishes the link's value to the Taskforce's recommendations.

In **questions 10 and 11** issues relating to gas generation and the Tasmanian gas market are raised. The TVPS should be considered as an ongoing energy security option for Tasmania. It is reliable and has been used successfully in this role for a long time. However, it should be considered against the cost and reliability of other alternatives. The Taskforce should also take into account the impact of the TVPS on the Tasmanian gas market. It has such a significant impact that the absence of a contract for gas supply post 2017 could increase gas transmission charges to such an extent that the Tasmanian gas market becomes unviable. This could harm energy security in both gas and electricity.

The availability of natural gas as a diversified source of energy offers additional energy security to Tasmania. However, the Taskforce needs to consider the benefits of this and what they will cost. The natural gas market in Tasmania remains tiny and faces multiple challenges for it to remain viable and avoid potentially spiralling into failure. This includes how to increase its reach, both in terms of the number of connections and the coverage of the network, how to bring more competition into the market, how to lower very high transportation charges, what to do about the impending end to the TVPS's gas contract which heavily underpins the gas market, whether pipelines should be regulated, dealing with gas commodity price pressures and how to mitigate against the risks of a single gas transmission line into Tasmania (including risks for power generation). TSBC contends that a healthy future for the market cannot be guaranteed without some form of financial support.

**Questions 12 to 17** concern the role of renewable energy and emerging technologies in Tasmanian energy security. Our submission notes that, because of the way the Renewable Energy Target (RET) works, it is plausible for Tasmania to gain access to renewable generation, attracted by its significant wind resource, but have the rest of Australia pay for most of it. This could benefit energy security. However, other costs need to be considered, such as the intermittent nature of wind generation and the possible need for back up generation, and a likely need for more ancillary services and network connection or augmentation costs.

Pressures to regularly review the RET so that its subsidy is scrutinised, can also add to uncertainty about renewable energy developments.

We do not believe that emerging technologies can play a role in energy security whilst they are emerging. There is simply too much uncertainty and costs are too high. AEMO found that they only have a niche role in a 20-year outlook. We list several potential barriers to developing such technologies in Tasmania, including its small size, lack of a competitive energy market to facilitate innovation, lack of relevant infrastructure, and access to all the needed resources.

Demand Side Response (DSR) could offer potential, especially with the AEMC involved in reforms to improve its prospects. Notably, DSR has been a part of the Victorian market since its inception through reductions in aluminium smelting load. Cogeneration could also be impacted by the AEMC reforms and is available in Tasmania. Greater adoption of energy efficiency, though not without challenges, can also assist in mitigating energy security risks by dampening energy consumption. Energy consumers, including small business, could be incentivised to participate if it is cost effective to do so.

The national commitment to reduce carbon emissions seems to us to offer limited opportunities to impact renewable energy developments in Tasmania, with the RET likely to be more important in determining renewable energy capacity.

Regarding **question 18**, the Taskforce should avoid climate related predictions that are subject to considerable uncertainty, but could support measures that assist in reducing these uncertainties, provided they assist in delivering energy security more cost effectively.

We support that the Taskforce models credible scenarios to help it reach an informed view on long term energy security and support the scenarios listed in the Consultation Paper. Question 19 seeks views on any other scenarios to model. We have suggested modelling the gas market and an absence of gas generation, as well as the need to define roles and responsibilities for ongoing work, with possible re-establishment of a responsible agency.

## Recommendations

Our recommendations are outlined in Section 5 of this report with the headings of:

1. Determine an acceptable level of energy security
2. Ensure risks are minimised and well-managed
3. Undertake robust assessments of existing energy security framework
4. Quantify and prioritise potential energy risks
5. Provide clear and transparent options
6. Put contingency plans in place

7. Consider options to strengthen existing water Management procedures
8. Consider Gas-fired generation as viable option
9. Assess impact of TVPS on Tasmanian gas market
10. Consider the role of the gas market
11. Consider what role wind energy offers for mitigating energy security risk
12. Avoid including climate related predictions with high uncertainty
13. Model credible scenarios on long-term energy security
14. Define roles and responsibilities for ongoing work

\* \* \* \* \*

## Abbreviations

<b>ACCC</b>	Australian Competition and Consumer Commission
<b>AEMC</b>	Australian Energy Market Commission
<b>AER</b>	Australian Energy Regulator
<b>CCA</b>	Competition and Consumer Act
<b>CCGT</b>	Combined Cycle Gas Turbine
<b>COAG</b>	Council of Australian Governments
<b>LPG</b>	Liquefied Petroleum Gas
<b>MDQ</b>	Maximum Daily Quantity (of gas)
<b>NCC</b>	National Competition Council
<b>NGO</b>	National Gas Objective
<b>NEM</b>	National Electricity Market
<b>OCGT</b>	Open Circuit Gas Turbine
<b>OTTER</b>	Office of the Tasmanian Economic Regulator
<b>SME</b>	Small to Medium Enterprise
<b>TVPS</b>	Tamar Valley Power Station
<b>TGP</b>	Tasmanian Gas Pipeline
<b>TGN</b>	Tas Gas Networks
<b>TGR</b>	Tas Gas Retail
<b>TSBC</b>	Tasmanian Small Business Council

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# INTRODUCTION

- Taskforce Consultation
- Small Business and Tasmanian Small Business Council
- Scope of study
- Our approach
- Report structure

# 1 Introduction

## 1.1 BACKGROUND TO THE REPORT

The Government has formed the Tasmanian Energy Security Taskforce (the Taskforce) to advise it on how to better prepare for and mitigate against the risk of future energy security threats. This follows the major threats to energy security that arose late last year and continued for a six-month period until May 2016, during which time Tasmania was facing a real threat of a major risk to energy security, with possible repercussions such as significant loss of electricity supply to customers, including small business. The personal, public and commercial consequences of this could have caused major damage in and to Tasmania. The Tasmanian Small Business Council (TSBC) therefore welcomes the formation of the Taskforce, which needs to undertake an independent and arm-length assessment of the circumstances leading to the situation that emerged and consider how best to limit the risks of a similar threat to energy security occurring again.

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*The Tasmanian Energy Security Taskforce is to advise on how to better prepare for and mitigate against the risk of future energy security threats.*

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## 1.2 TASKFORCE'S PROCESSES AND CONSULTATION

We also welcome that the Taskforce is undertaking a public consultation process as an important part of its deliberations, that it has published a Consultation Paper early in its deliberation and provided an opportunity to respond to that Paper. Looking towards the process for completion of the work of the Taskforce, we would welcome further opportunity to interact on behalf of Tasmanian small businesses, including meeting with the Taskforce and an opportunity to provide a response to its Interim Report, due by the end of this year.

Indeed, we strongly believe that it is important that an opportunity is provided for Tasmanian consumers, who are directly impacted by energy security matters, to respond to the interim positions of the Taskforce. The Taskforce would also benefit from receiving feedback from the Tasmanian community on these, which should assist in ensuring that its final positions are beneficial to the Tasmanian community. In this regard, we are concerned that there is no opportunity for such feedback mentioned in the Consultation Paper or on



the Taskforce's website. We urge that the Taskforce move quickly to clarify that an opportunity for feedback on its Interim Report will be provided.

### 1.3 A SNAPSHOT OF SMALL BUSINESS AND THE TASMANIAN SMALL BUSINESS COUNCIL

Small business is the 'engine room' of the Tasmanian economy. There are more than 37,000 small businesses in Tasmania, 30,000 of which are employers, employing over 70,000 full and part-time people. Numerically, they make up in excess of 96 per cent of all businesses in Tasmania and the sector provides more than half of the State's

private sector employment. Understanding the small business sector, its aspirations and needs is of vital importance to the Government and regulators, as decision-makers, as well as bodies such as the Taskforce, which advise them. The resources to address the future needs of the state can only come from the generation of new wealth and healthy, vibrant small businesses are critical to this.

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*Small business is the 'engine room' of the Tasmanian economy*

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The Tasmanian Small Business Council (TSBC) is an "association of [small business] associations", each of which represents their market grouped industry sector. The TSBC seeks to provide the representative voice of small business in Tasmania. The TSBC's role in facilitating meetings of and forums for these trade associations, whose members are predominately small businesses, is paramount to providing informed insights and advice to governments and regulators.

An obvious difficulty for owners of small and micro businesses is the absolute necessity to spend their time working "in the business", while those with larger numbers of employees take a more managerial role and begin to spend some of their time working "on the business". Small business is therefore reliant on groups such as the TSBC to develop and put forward informed policy positions to Government and regulators that truly represent their interests.

### 1.4 SMALL BUSINESS INTEREST IN ENERGY SECURITY

We note that the Taskforce is confining its consideration of energy security to stationary energy, that is, electricity and gas. Around 28,000 Tasmanian small businesses are connected to the electricity grid and nearly 800 are connected to the natural gas network. They consume around 120 GWh of electricity annually and 350 Tj of natural gas.

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*Around 28,000 Tasmanian small businesses are connected to the electricity grid and nearly 800 are connected to the natural gas network.*

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Small business is reliant on continuous and secure supplies of energy to conduct their businesses. Without this, they have difficulty operating. The consequence is a loss of business, critical cash flow, employment opportunities and (if loss of energy supply is long or serious enough) a threat to their viability.

Some small businesses also make relatively extensive use of energy (e.g., those involved in certain types of manufacturing, independent supermarkets), increasing their vulnerability to supply disruption. Others are exposed to either interstate or international competition and compete on the basis of thin margins and/or meeting their order requirements. A loss of energy supply can have significant consequences for them.

By their nature, small business is also very cost conscious. Whilst they recognise that energy security comes at a 'cost', they wish to see this cost minimised for a given level of energy security, bearing in mind that they have also experienced significant increases in both electricity<sup>1</sup> and gas costs<sup>2</sup> over the past decade. In the case of electricity, small business is also currently paying more than they should as a consequence of cross-subsidies in their electricity tariffs, which costs a typical small business substantially more annually for their electricity than a typical household with similar consumption.<sup>3</sup> For natural gas, Tasmanian small businesses are paying among the highest prices in the nation.<sup>4</sup> Given this, it is understandable that, whilst they value energy security, they do not wish to pay any more for energy. They expect Tasmania's energy supply businesses to provide security of supply without increasing their prices.

The TSBC therefore welcomes that the Government has said that there will be no increases in electricity prices for tariff customers arising from the recent energy supply threats, with Hydro Tasmania to absorb all costs.<sup>5</sup> In this regard, we note that the recent decision on electricity standing offer prices by the Office of the Tasmanian Economic Regulator (OTTER) has confirmed that the electricity emergency has not contributed to any price increases for 2016/17. The issue going forward is to maintain this position whilst ensuring that energy security does not become a cost burden to small business.

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*For natural gas, Tasmanian small businesses are paying among the highest prices in the nation.*

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## 1.5 OUR APPROACH

The TSBC has approached this submission by seeking to provide informative answers to all of the questions posed in the Consultation Paper. It is, however, of the view that there are two fundamental questions which have not been asked, which are:

- What is the current status of energy security in Tasmania?
- What are the factors which led to the prolonged energy supply threat which confronted Tasmania from November 2015 to May 2016?

It is the view of the TSBC that without adequately considering and resolving these two questions it is not possible for the Taskforce to provide fully informed advice to the Government on energy security. Our submission therefore also provides responses to those questions.

The TSBC notes also that advice has previously been provided to the former Tasmanian Government on energy security matters, such as that provided by the Independent Review of the Tasmanian Electricity

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<sup>1</sup> Small business retail tariffs increased by 21 per cent in 2011/12 and a further 11 per cent in 2012/13. Although the rate of increase has been smaller since then and prices actually declined by 12.6 per cent in 2014/15, there has still been a significant overall increase since 2011/12.

<sup>2</sup> Commercial gas tariffs have increased by 35 per cent since 2012, an annual average increase of 8.7 per cent.

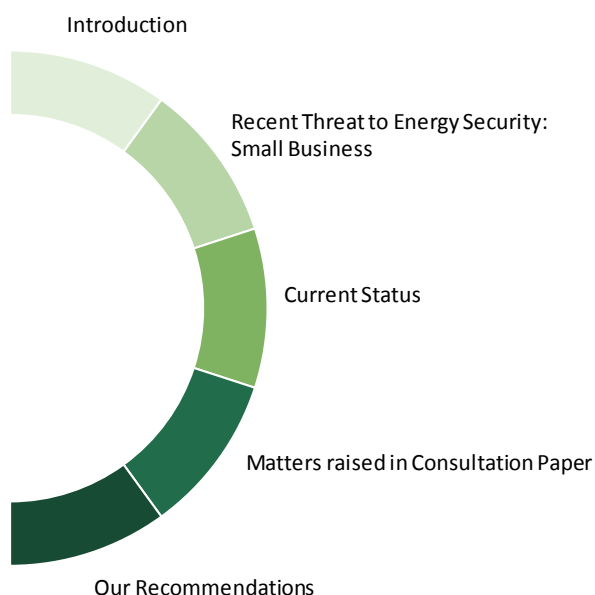
<sup>3</sup> Goanna Energy Consulting, *Cross-subsidies in Tasmanian Electricity Tariffs – their impacts on small business*, A report the TSBC, forthcoming.

<sup>4</sup> Office of the Tasmanian Economic Regulator, *Comparison of Australian Standing Offer Energy Prices, February 2016 Edition*.

<sup>5</sup> The Mercury, *Power prices don't connect to Basslink, says Energy Minister Matthew Groom*, 21 April 2016 at <http://www.themercury.com.au/news/politics/power-prices-dont-connect-to-basslink-says-energy-minister-matthew-groom/news-story/1c9192f313de43b95c321a6619177fcb>.

Supply Industry in 2012.<sup>6</sup> We believe that the Taskforce should take this advice into account in framing its recommendations. It would be helpful if this were made clear by the Taskforce.

## 1.6 REPORT OUTLINE



### THIS SUBMISSION IS STRUCTURED AS FOLLOWS:

Section 2 provides some comments on the recent electricity supply threats, especially from a small business perspective.

Section 3 takes stock of the current status of energy security in Tasmania and considers the factors that led to the recent threats.

This is followed (Section 4) by our response to matters raised in the Taskforce's Consultation Paper, particularly where these matters are relevant to small business.

Finally, in Section 5 we set out our recommendations for consideration by the Taskforce.

<sup>6</sup> Electricity Supply Industry Expert Panel, *Final Report*, March 2012

# ENERGY SECURITY: SMALL BUSINESS PERSPECTIVES

- Formation of Taskforce
- Energy risks to Small Businesses

## 2

## Recent Threat to Energy Security- Small Business

This Chapter 2 provides some comments on the recent electricity supply threats, especially from a small business perspective.

### 2.1 FORMATION OF TASKFORCE

The formation of the Taskforce stems from the recent threat to Tasmania's energy security, whereby the (unusual) combination of:

- record low levels in hydro storages, driven by record low flows into storages in the spring of 2015 (and perhaps decisions by Hydro Tasmania related to maximising its revenue from the carbon price and water management practices leading up to then);
- the failure of Basslink on 20 December 2015, resulting in an outage that lasted for six months; and
- a decision to sell the Tamar Valley Power Station's (TVPS) Combined Cycle Gas Turbine (CCGT) jointly made by Hydro Tasmania (as owner) and the Tasmanian Government (as Shareholder) such that it was placed in dry lay off prior to sale.

### 2.2 IMPLICATIONS

This resulted in the need to institute a range of emergency supply contingencies including, the rapid redeployment of the TVPS (386 MW at full capacity), installation of around 200 MW of diesel generation and negotiation of load reduction with several of Tasmania's Major Industries (MIs) to the tune of 115 MW.

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*The state was precariously balanced on a knife edge for an extended period of six months as storages continued to fall*

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Whilst there was no actual breach of energy security – in the sense of forced load shedding – the state was precariously balanced on a knife edge for an extended period of six months as storages continued to fall and the emergency measures were gradually activated under a hastily developed Energy Supply Plan. The emergency came to an eventual end as healthy rains started to replenish storages (May 2016) and Basslink was restored to service (June 2016) after a series of missed deadlines for its restoration came and went.

The TSBC wishes to record its appreciation to the Government of Tasmania, Hydro Tasmania, TasNetworks and involved government officials for their dedication to ensuring that forced load shedding was not necessary. The response was both necessary and timely.

In the circumstances, small business was motivated to do its share to conserve power where possible and the TSBC put out a call to our members to do so.<sup>7</sup>

Nevertheless, the Tasmanian small business community was both seriously concerned about the situation and could have suffered major disruption in the event that load shedding was necessary. Small business often operates on the basis of thin margins and is vulnerable to cash flow threats, which disruption to electricity or gas supply can create. If the disruption is serious or prolonged, then viability and jobs can be put at risk. No doubt these types of risks are why the Energy Supply Plan was initiated.

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*If the disruption is serious or prolonged, then viability and jobs can be put at risk.*

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In any event, we are aware of businesses that seriously considered the installation of portable generators rather than avoid the risk of disruption.

However, some Tasmanian SMEs are on market contracts. Information from Goanna Energy Consulting<sup>8</sup> confirms that these customers experienced price shocks due to the failure of Basslink. They report that some Tasmanian businesses found themselves exposed to the spot price at a time when Tasmania was physically separated from the remainder of the NEM, with one health business so exposed that their electricity bill doubled. In another example, an out of contract dairy farmer saw his electricity price more than double from 7 cents/kWh last year to 15 cents this year, with a \$30,000 impact on the business. Whilst it can justifiably be argued that customers should be more careful in avoiding spot exposure, the lack of competition in Tasmania can be a trap for unsuspecting consumers and means that they are generally less educated about and less aware of the pitfalls of the electricity market. Full Retail Competition can easily become a curse not a blessing as intended.

Meanwhile, contract prices in Tasmania finished 2015/16 some 55 per cent higher than a year earlier. Whilst not all of this can be attributed to the emergency, as Victorian contract prices have also increased, it would be fair to say that it has had a significant impact.

The energy security threat also reflected poorly on Tasmania and has somewhat tarnished its reputation. The spectacle of the State having to resort to emergency measures for an extended period, including the use of a large number of diesel generators normally used to run remote mine sites, and large industrial consumers being forced to cancel orders for lack of power, was not one that sits well in a developed economy seeking to attract additional investment based on reclaiming its energy advantage (a key plank in the Government's State Energy Strategy), or one that should be repeated.

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*Meanwhile, contract prices in Tasmania finished 2015/16 some 55% higher than a year earlier.*

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An important task now should be to ensure that Tasmania's reputation is restored as soon as possible and the role of the Taskforce is important here.

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<sup>7</sup> See <http://www.tsbc.org.au/index.php/2016/04/18/small-business-people-energy-austerity-can-be-led-by-us/>.

<sup>8</sup> Refer to Tasmanian Parliament, Public Accounts Committee, Transcript, 4 August 2016, pp 20-1 at <http://www.parliament.tas.gov.au/ctee/Joint/Transcripts/Public%20Accounts%204%20August%202016%20-%20Energy.pdf>.

# CURRENT STATUS OF ENERGY SECURITY

- Energy Security definition and responsibility
- Reasons behind recent energy threat
- Actions undertaken by Hydro Tasmania in response
- Current levels of energy security in electricity and gas markets
- Managing future risks

## 3

## Current Status

This section considers the present state of energy security in Tasmania and the factors that lead to the recent threats. It is our strong view that the Taskforce needs to consider these in addition to the matters raised in the Consultation Paper. Otherwise it will not be able to provide well founded advice to the Government.

### 3.1 WHAT DOES ENERGY SECURITY MEAN?

The vision of the Australian Energy Market Operator, (AEMO) is “Energy security for all Australians”<sup>9</sup>. AEMO does not, however, define energy security.

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*“Energy security for all Australians”*  
(AEMO)

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The International Energy Agency (IEA) defines energy security as:

*“the uninterrupted availability of energy sources at an affordable price.”*

It goes on to say that energy security has many dimensions: long-term energy security mainly deals with timely investments to supply energy in line with economic developments and sustainable environmental needs. Short-term energy security focuses on the ability of the energy system to react promptly to sudden changes within the supply-demand balance. Lack of energy security is thus linked to the negative economic and social impacts of either physical unavailability of energy, or prices that are not competitive or are overly volatile.<sup>10</sup>

Achieving energy security in the long term requires long term planning, which includes appropriate risk management. That planning and risk management needs to take account of a range of factors, including but not limited to:

1. forecast load and all generation options available to meet that load;
2. consideration of a range of foreseeable scenarios (e.g. loss of a major industrial customer, the impact of local generation including photovoltaics, demand response, electric vehicle penetration, technology impacts);
3. the time required to build large scale generation (including interconnector options);

<sup>9</sup> AEMO website, [www.aemo.com.au/About-AEMO/-/media/03A71EEF15FC4A45BC5E5EE521FD0215.ashx](http://www.aemo.com.au/About-AEMO/-/media/03A71EEF15FC4A45BC5E5EE521FD0215.ashx)

<sup>10</sup> International Energy Agency website – [www.iea.org/topics/energysecurity/](http://www.iea.org/topics/energysecurity/).



4. planning to deal with major, credible, contingency events (events which can reasonably be expected to occur, but with a low probability level) such as:
  - a. loss of major electricity supply components (e.g. the combined hydro system due to inadequate energy in storage, Basslink or the TVPS);
  - b. loss of major electricity transmission components (e.g. the links to major supply points); and
  - c. loss of the gas transmission pipeline.

Achieving short term energy security requires detailed assessment of matching supply and demand on a real time basis, and mitigation strategies to deal with a loss of load or supply.

The capacity to shed load quickly is a component of short term electricity security, and is an essential part of electricity system protection schemes.

The need for load shedding other than in the very short term (usually measured in time periods less than one second, with consequences which may extend to hours), that is, the need to reduce energy consumption over extended periods in order to match supply and demand, represents a lack of energy security.

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*Achieving short term energy security requires detailed assessment of matching supply and demand on a real time basis.*

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### 3.2 RESPONSIBILITY FOR ENERGY SECURITY IN TASMANIA

The vision articulated in the Government's Energy Strategy<sup>11</sup> does not include any reference to energy security. The Energy Strategy does, however, include as objective 4.1.8 "Monitoring Tasmania's level of energy security" and notes "A secure energy supply is fundamental to both the wellbeing of Tasmanians and on-island economic activity, and maintaining energy security is a key responsibility for the Government."

The Department of State Growth carries responsibility for monitoring and advising on Tasmania's energy security.<sup>12</sup>

The report from the Independent Review of the Tasmanian Electricity Supply Industry<sup>13</sup> noted, at page 287, as follows

*"In this context, the Tasmanian Government replaced Hydro Tasmania's legislative responsibility with a formal expectation communicated through corporate planning process that Hydro Tasmania would continue to play a central role in maintaining the security of supply, particularly in light of the dry conditions being experienced in the lead up to, and after Basslink commissioning. Hydro Tasmania was only formally 'released' from this obligation in 2009 with the commissioning of the TVPS.*

<sup>11</sup> Restoring Tasmania's energy advantage, [http://www.stategrowth.tas.gov.au/\\_data/assets/pdf\\_file/0017/100637/Tasmanian\\_Energy\\_Strategy\\_Restoring\\_Tasmanias\\_Energy\\_Advantage.pdf](http://www.stategrowth.tas.gov.au/_data/assets/pdf_file/0017/100637/Tasmanian_Energy_Strategy_Restoring_Tasmanias_Energy_Advantage.pdf).

<sup>12</sup> <http://www.stategrowth.tas.gov.au/energy/security>.

<sup>13</sup> Electricity Supply Industry Expert Panel, Final Report, March 2012

*Ultimately, the Tasmanian Government has taken on responsibility for ensuring energy security in Tasmania. This is reflected by its decision to acquire the TVPS on energy security grounds. In its 2010 Ministerial Statement on Energy, the Government stated that:*

*Power rationing, a dire situation which is not uncommon on the global stage, had never been experienced in Tasmania. This Government has taken on responsibility in the past and will continue to take responsibility in the future to ensure that the lights indeed stay on.”<sup>14</sup>*

The Review report further noted (at page 232):

*“Aurora Energy’s acquisition (in 2008), completion and operation of the TVPS (Tamar Valley Power Station) was undertaken as an energy supply security measure, at the direction of the Government and in the context of a unique set of unforeseen hydrological and global financial circumstances”*

### 3.3 THE RECENT ENERGY SECURITY THREAT

The energy threat began on 20 December 2015 following the failure of the Basslink undersea interconnector.

The nature of the threat was that projected available (on island) electricity generation from the date of the Basslink failure to its anticipated restoration would be unlikely to meet expected demand. The immediate consequences of such an outcome, without intervention, would be a combination of forced load curtailment, reduction in major storages to potentially environmentally damaging levels, and potential damage to generation assets, among others. The need for forced load curtailment would carry significant immediate economic consequences, together with long term reputation damage for the state and for businesses operating in the state, including major industrials, affected by the curtailment.

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*The energy threat began on 20 December 2015, following the failure of the Basslink undersea interconnector.*

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The principal underlying factors contributing to the threat, in addition to the Basslink interconnector failure, were the continuation of an extended period of below average rainfall, resulting in depleted hydro generation storages, and the lack of adequate contingency planning to enable the state’s electricity demand to be met, given the occurrence of either – or both – of those credible contingency events.

#### 3.3.1 RESPONSE TO THE THREAT

Following the failure of the Basslink interconnector, actions undertaken by Hydro Tasmania in order to reduce the dependence on the then available on-island generation, being hydro generation resources, with storage levels already at record lows and wind generation, in order to avoid the need for forced load curtailment, were to:

<sup>14</sup> Ministerial Statement, 16 June 2010 (Hansard).

- Negotiate with major industrial customers to reduce load. The details of those negotiations are of a commercial nature and not publicly available, however, media reporting suggests total demand was reduced by up to 115MW with contributions from Bell Bay Aluminium, TEMCO and Norske Skog.<sup>15</sup>
- Re-instate the gas fired Tamar Valley Power Station (TVPS) to full capacity. A decision had been made in August 2015 to decommission and sell the TVPS CCGT Its largest unit), however, that decision was reversed in November 2015 and generation commenced on 20 January 2016.
- Purchase, connect and operate supplementary diesel generators. Around 200MW of additional generation was installed progressively from March 2016.

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*Hydro storage levels had fallen to a historic low of 12.8% in April 2016.*

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As a result of those actions, the need for forced load curtailment was avoided, however, hydro storage levels had fallen to a historic low of 12.8 per cent in April 2016, before solid autumn rains and the restoration of the Basslink interconnector on 13 June 2016 saw storage levels rise.

### 3.3.2 REASONS FOR THE 2016 ENERGY THREAT

Statements concerning the cause of the threat have invariably referred to the combination of unforeseen low hydro storages and the failure of the Basslink interconnector in December 2015.

The TSBC contends that those events contributed to the threat, but that the Taskforce needs to consider if they were foreseeable and were, in risk management terms “credible contingency events”, that is, events which are unlikely but may occur, and which Tasmania must be prepared for. If so, dealing with those events, and combinations of those and similar events (such as the loss of the gas transmission pipeline), should have formed part of long term energy planning and risk management.

Furthermore, if the underlying reason for the threat was a lack of focus on long term planning and risk management in the state’s energy resources, this may have contributed to a series of crucial decisions by the Government and Hydro Tasmania, which contributed to the threat.

Leadership from the Government (as shareholder) provides the foundation for the cultures in the organisations which comprise the Tasmanian Electricity Supply Industry (TESI), and the resulting values, behaviours and actions.

The Taskforce needs to consider if the TESI values cash as a priority over other considerations, including energy security.

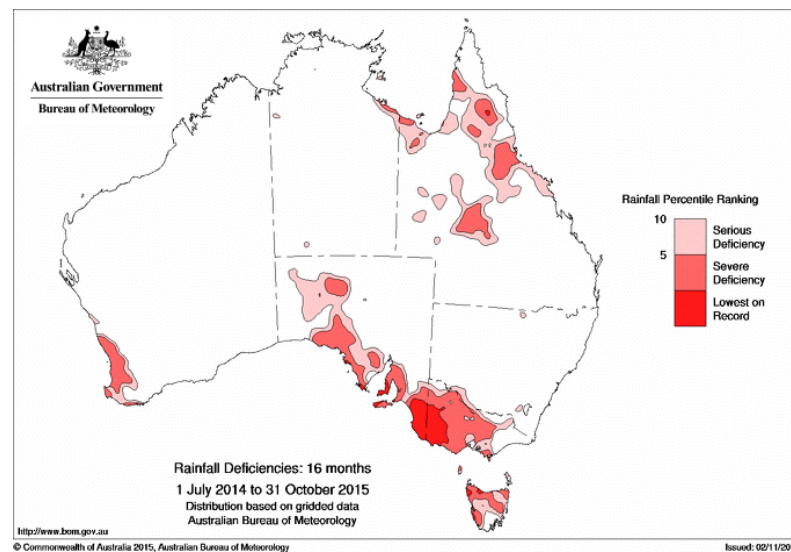
Examples could include:

1. Was sufficient weight given to the primary reason for the acquisition of the TVPS (energy security) in approving its sale in August 2015?

<sup>15</sup> <http://reneweconomy.com.au/2016/another-big-industrial-trims-demand-as-tasmania-energy-crisis-deepens-36104>.

2. Was sufficient account taken of several years of less than average inflows and declining storages, with the Bureau of Meteorology's 16-month rainfall deficiency map for October 2015 indicating storage catchment areas in a state of severe deficiency or lowest on record, when approving the sale of the TVPS (refer Figure 1)
3. Was a requirement for the Hydro to pay dividends paramount, even in the absence of accounting profits or cash surpluses, resulting in the Auditor General recommending *"if Hydro Tasmania is to meet Government's dividend expectations and continue its capital expenditure programs, it will need to manage down its costs, dispose of assets or borrow more, or combination of these factors."*<sup>16</sup>
4. Was the debt transfer from TasNetworks to Hydro, ostensibly to strengthen Hydro Tasmania's balance sheet, to enable payment of dividends in the absence of profits?

Figure 1: Rainfall deficiency, 16 months to October 2015

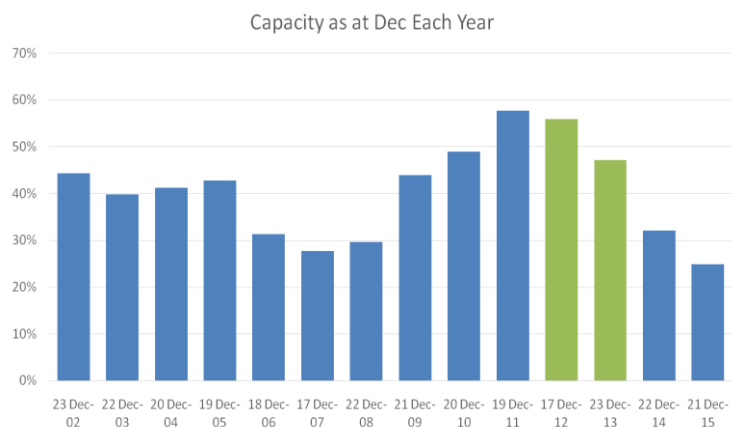


We would be concerned if these factors resulted in a focus by Hydro Tasmania on taking profits from exports via Basslink during the time of high electricity prices (as a result of the carbon tax) during a period of declining water storages (potentially leading to a credible contingency event), thereby risking even greater consequences should a second credible contingency event occur. The failure of the Basslink interconnector made this a reality.

Figure 2 below shows Hydro water storages (from an electricity generation perspective - energy in storage) during the period before the Basslink failure.

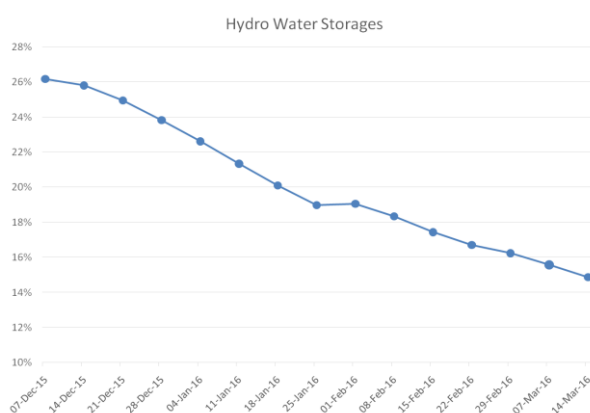
<sup>16</sup>Report of the Auditor-General No. 5 of 2015-16, *Auditor-General's*

Figure 2: Hydro Tasmania Water Storages – Energy in Storage



After the Basslink failure, the combination of credible contingency events and a lack of, alternative, on-island generation resulted in a rapid decline of Hydro water storage levels, despite the Government's/Hydro Tasmania's Energy Supply Plan response (see Figure 3).

Figure 3: Hydro Tasmania Water Storage Levels



### 3.4 ACHIEVING ENERGY SECURITY IN TASMANIA

In order to fully evaluate energy security in Tasmania it is necessary to understand the stationary energy market, comprising gas and electricity.

The gas and electricity markets in Tasmania are closely linked, not the least by way of the gas fired TVPS and associated gas supply contract.

The electricity market comprises generation, transmission, distribution and retail components, all state owned, and all highly regulated.

The gas market comprises transmission, distribution and retail components, all of which are privately owned, with the exception of one of the two retail providers, Aurora Energy. There is no on-island production of gas and the transmission and distribution components are private monopolies subject to light handed regulation. There is no regulation of prices to end users.

No component of the gas or electricity markets is subject to genuine competition, due to a lack of competitive wholesale and retail markets.

Ensuring energy security (gas and electricity) in the immediate/short term is the responsibility of AEMO, whilst ensuring energy security in the long term is the role of the Tasmanian Government.

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*The Taskforce needs to establish if gas and electricity markets in Tasmania both demonstrate a lack of long term security.*

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The Taskforce needs to establish if gas and electricity markets in Tasmania both demonstrate a lack of long term security.

### 3.5 CURRENT LEVEL OF LONG-TERM SECURITY OF SUPPLY: GAS MARKET

Tasmania's gas market faces a number of challenges and long term gas supply cannot be considered secure. In summary, the single transmission pipeline supplying gas to the state represents a supply risk in its own right, and the current low level of utilisation of the gas infrastructure means that the market itself is at risk of failure.

A comprehensive review of the Tasmanian gas market was recently undertaken by Goanna Energy, at the request of the Tasmanian Small Business Council (TSBC).<sup>17</sup>

That review identified a number of issues relevant to long term gas supply security, including:

- Reliance on a single, undersea pipeline:

At page 63: *"Tasmania is connected to natural gas from Victoria via a gas transmission pipeline, the TGP. This is a single pipeline. If something disrupted the pipeline or the supply of gas feeding into it, there would be impacts on gas users, and possibly electricity supply, in Tasmania. These could potentially be serious and/or prolonged. In 2010, Engineers Australia found that the single transmission pipeline exposes the state to a risk of major disruption in gas supply (and also electricity generated from gas) and assessed this as a negative in its rating of Tasmania's gas infrastructure. Small businesses, especially those that rely on gas, could be significantly disrupted by any security of supply issues with costly implications."*

- Market structure and strategic direction:

At page 15 *"there is a need to better integrate gas into the (Energy) Strategy and for a more strategic approach to gas policy, addressing key gaps in the Tasmanian gas market, like the lack of network expansion, lack of competition, price pressures, gas security risks, and the effectiveness of light handed regulation."*

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<sup>17</sup> Goanna Energy Consulting, *The Tasmanian Gas Market, Building the Pipeline to Opportunities*, August 2016 <http://www.goannaenergy.com.au/documents/TSBCReportAugust2016Finalv3.1.pdf>.

At page 17 “a major review of the gas market is needed to ensure it does not continue as a significantly underutilised resource with a potential risk of eventual failure, instead maximising its potential to benefit Tasmanian gas users and the State’s economy.”

The Report identified a range of actions which could be undertaken to address those issues, and others identified in the report.

### 3.6 CURRENT LEVEL OF LONG-TERM SECURITY OF SUPPLY: ELECTRICITY MARKET

The events which led to the 2016 energy supply risks are, as previously noted, of the nature of credible contingency events. In order to ensure long term electricity supply security, it is necessary for appropriate contingency plans to be in place to ensure that electricity supply is not interrupted, despite the occurrence of one or more of those events.

The fact that an urgent, short term, unplanned response was required in order to manage the impact of two credible contingency events is concerning to small business and suggests a lack of long term contingency planning and therefore a lack of long term electricity supply security.

In recognition of a lack of security, the Senate Select Committee which addressed, amongst other matters, Tasmania’s energy security threats<sup>18</sup> indicated at recommendation 4:

*“The committee recommends that the Commonwealth and Tasmanian Governments work together to identify and implement a long-term strategy for development and management of electricity infrastructure to avoid any repetition of the Tasmanian energy crisis, and look at all options for the future energy security of Tasmania.”*

In considering the security of electricity supply it is important to note the difference between the installed generation capacity/projected demand relationship, and security of supply.

AEMO produces an annual Electricity Statement of Opportunities, or ESOP, which provides an assessment of projected electricity supply shortfalls over a ten-year period. This is based on projected installed and planned generation capacity versus projected demand, using weak, neutral and strong economic growth scenarios.

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*Tasmania will not face an excess of demand over supply during the 10 years to 2026/27.*

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In the latest ESOP<sup>19</sup>, AEMO expects that even under the strong economic growth scenario, Tasmania will not face an excess of demand over supply during the 10 years to 2026/27.

The ESOP does not, however, provide any guidance as to the effectiveness or otherwise of contingency planning arrangements necessary to deliver long term security of supply. Further, in Tasmania’s case, it does not consider the nature of installed hydro generation plant, being “run of the river”, that is, available during

<sup>18</sup> [www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Scrutiny\\_of\\_Government/Budget\\_Measures/Budget\\_Measures/Fourth%20Interim%20Report/c01](http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Scrutiny_of_Government/Budget_Measures/Budget_Measures/Fourth%20Interim%20Report/c01).

<sup>19</sup> [www.aemo.com.au/Media-Centre/~/-/media/4230CE5698444AC3AB2E2D86E8D6EA33.ashx](http://www.aemo.com.au/Media-Centre/~/-/media/4230CE5698444AC3AB2E2D86E8D6EA33.ashx).



periods of high levels of rainfall, and storage, drawing from major water storages and available during periods of low levels of rainfall.

ESOO forecasts do not therefore provide assurances in relation to long term energy security.

The fact that the 2016 energy threat occurred means that, without a long term, strategic response, it is foreseeable that the same or a different combination of credible contingency events could result in the same outcome.

As suggested to the Senate Review Committee:

*“We need to have a plan, not just to fix this particular problem today and hope it will never happen again, because it will happen again. It is guaranteed, maybe not tomorrow, but in five-years’ time, you will have the same crisis if you do nothing now. So it has to be planned now. I really see this as a good opportunity for all of us.*”

### 3.7 ACHIEVING ENERGY SECURITY – THE TASMANIAN CONTEXT

Achieving energy security is not a stand-alone activity, it is part of the long term policy setting and planning of the State Government; direction setting of the state owned energy businesses by the State Government; and the long term strategic planning processes for those businesses involved in the electricity and gas supply industries participating in the Tasmanian markets.

At the highest level, ensuring long term energy security must be a clear objective of the State Government, expressed in its Energy Strategy and associated action plans. With the current TESI structure, this should be reflected in the directions provided to state owned energy businesses (SOEBs) through mechanisms such as shareholder expectation statements and approved corporate plans. Those directions should clearly establish the Government’s expectations in relation to risk appetite and the balance between risk and the cost of risk mitigation.

Earlier discussion has identified a number of major, credible, contingency events (events which can reasonably be expected to occur, but with a low probability level) being:

- loss of major electricity supply components (e.g., the combined hydro system due to inadequate energy in storage, Basslink or the TVPS);
- loss of the gas transmission pipeline; and
- loss of major electricity transmission components (such as the links to major supply points).



### 3.8 CREDIBLE CONTINGENCY EVENTS

This section examines a range of relevant credible contingency events.

#### 3.8.1 CREDIBLE CONTINGENCY EVENT: REDUCTION OF HYDRO CAPACITY DUE TO LOW STORAGE LEVELS

Inadequate energy in storage to enable the hydro generation system to contribute the required output to meet electricity demand is hydrological risk – the risk that the system will not be able to meet residual demand in the medium to long term due to an extended period of lower-than-expected inflows.<sup>20</sup>

Inflows to the hydro system storages vary from year to year, and are also subject to substantial cyclical variations. The cause of hydrological risk is extended periods (several years) of below average rainfall, whereby storage levels at the annual “low” level steadily decline.

In the past 14 years there have been two occasions where extended periods of below average rainfall resulted in record low storage levels, being summer 2007/08 and summer 2015/16. The 2007/08 record low, a record at that time, prompted the (then) State Government to proceed with the acquisition of the gas fired TVPS, and the 2015/16 record low rainfall was a major contributor to the 2016 energy security threat (refer to Figure 4).

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*In the past 14 years, there have been two occasions where extended periods of below average rainfall resulting in record low storage levels: summer 2007/08 & 2015/16*

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Previous State Governments have sought to mitigate hydrological risk by way of major infrastructure investments in alternative electricity generation to hydro, being the (then) oil fired Bell Bay Power Station<sup>21</sup> (BBPS), commissioned in 1971, the Basslink interconnector<sup>22</sup> (commissioned in April 2006) and the gas fired TVPS, commissioned in October 2009.

The stated government objective for each of those investments was to mitigate hydrological risk. Until the commissioning of the BBPS, energy security equated to hydrological risk, which is no longer the case, and progressive installation of wind generation has further reduced hydrological risk.

The investment in alternative sources of generation to the hydro system has met the objective of reducing hydrological risk, however, the risk remains and the possibility of diminishing storage levels adversely impacting hydro generation capability is the credible contingency with arguably the highest probability. This can also be seen from the relative size of the hydro generation system (around 75 per cent) compared to other generation sources (25 per cent).

That proposition reflects the observable frequency of storage levels falling to a point which triggers intervention, including the investments noted above, and the observable reduction in mean inflows to hydro storages over the last 40 years, as depicted in Figure 4 below.

<sup>20</sup>Electricity Supply Industry Expert Panel, Final Report, March 2012, p. 275.

<sup>21</sup><http://www.hydro.com.au/energy/our-power-stations/gas-generation> - “In the winter of 1967 in Tasmania water storages fell drastically low. Hydro Tasmania's response to the possibility of continued drought saw the construction of the Bell Bay Power Station in northern Tasmania”

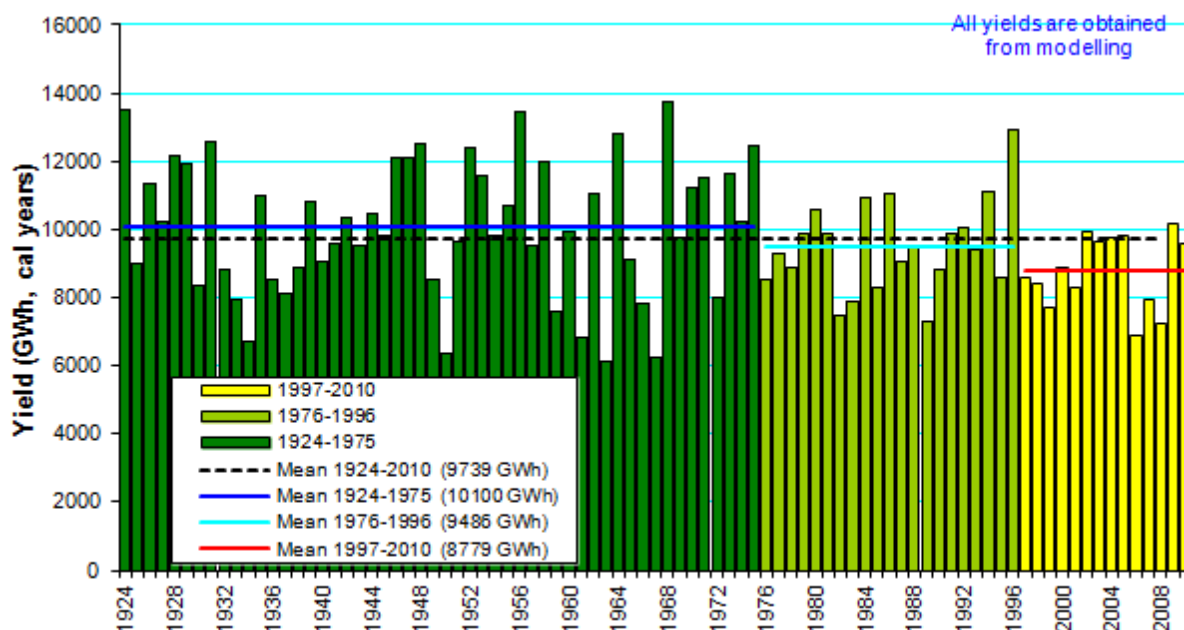
<sup>22</sup>[http://www.electricity.dpac.tas.gov.au/\\_data/assets/pdf\\_file/0011/155297/Basslink\\_-\\_Decision\\_Making\\_Expectations\\_and\\_Outcomes.pdf](http://www.electricity.dpac.tas.gov.au/_data/assets/pdf_file/0011/155297/Basslink_-_Decision_Making_Expectations_and_Outcomes.pdf) “The new Government did, however, revise the previous Government’s goals and strategic objectives for Basslink to the following: improve the security of electricity supply and reduce the exposure to drought conditions in Tasmania.

### 3.8.2 CREDIBLE CONTINGENCY EVENT: BASSLINK FAILURE

Failure of the Basslink interconnector, the second major credible contingency event identified above, could occur for a number of reasons, including but not limited to:

- design fault;
- operation outside of specified operating limits;
- failure of, or damage to, plant in converter stations;
- external damage caused by human activity such as fishing or anchoring; and
- external damage from natural causes, such as earthquake or subsidence of the seabed.

Figure 4: Long Term Historical Inflows as modelled by Hydro Tas



Source: Hydro Tasmania, as contained in the Electricity Supply Industry Expert Panel, Final Report, March 2012, p 277.

Restoration times for undersea interconnector failures vary considerably and are subject to a range of factors including cable length, number of joints, depth of water and prevailing weather and sea state conditions. Outages of around 6 months are not uncommon.

It is not yet clear what caused the Basslink failure on 20 December 2015, but the restoration time of almost six months is not unexpected, given the variables applicable to Basslink, including its 290-kilometre length, typical Bass Strait conditions, and international comparisons. The Moyle interconnector between Scotland and Northern Ireland failed in 2011, after 10 years of operation, with initial repairs taking 5 months to complete, with further faults requiring subsequent repairs and augmentation over a five-year period.

Undersea electricity cables have been in use since the early 1800s and are a proven technology, however, are subject to failure, like any other component of an electricity transmission system.

Basslink is rated at 500MW for importing electricity to Tasmania, which compares to a total installed on-island generation capacity of 2,771MW<sup>23</sup>, of which 2,280MW is hydro, 178MW<sup>24</sup> is gas, 308MW is wind and 5MW is biomass. Given the intermittent nature of wind generation and the run of river versus storage capacity of hydro generation, electricity imports via Basslink could at any time provide around 25% of actual available electricity supply to the Tasmanian market.

Any extended outage of the Basslink interconnector therefore has a greater impact than the installed generation in the Tasmanian market might suggest, which adds to the need for related risk management and contingency planning.

### 3.8.3 CREDIBLE CONTINGENCY EVENT: GAS TRANSMISSION PIPELINE FAILURE

Gas pipelines are a reliable form of energy transportation, and the industry now has many years of operational experience, however, failures can and do occur.

Causes of failure of undersea pipelines include, but are not limited to:

- corrosion;
- material or weld failure;
- equipment failure or damage;
- inadequate maintenance;
- external damage caused by human activity, such as fishing or anchoring; and
- external damage from natural causes, such as earthquake or subsidence of the seabed.<sup>25</sup>

The time required to effect repairs required as a result of a failure caused by any of those causes would be subject to similar factors applicable to the repair of the Basslink interconnector.

In addition, to adverse impacts of the loss of supply to Tasmania's 12,700 gas customers, the generation output of the TVPS would be lost to the electricity supply grid. Depending on the station configuration, up to 386MW of generation capacity would be lost.

### 3.8.4 CREDIBLE CONTINGENCY EVENT: LOSS OF GAS FIRED POWER STATION OUTPUT

An extended outage affecting all or some of the TVPS output could be caused by a number of factors, including but not limited to:

- loss of the gas transmission pipeline or other disruption to gas supplies;
- catastrophic failure of, or damage to, any of the generation turbines or other critical equipment; and
- extensive damage to connection assets (to the transmission network).

As noted above, depending on the station configuration, up to 386MW of generation capacity would be lost.

<sup>23</sup> AEMO, Statement of Electricity Opportunity, August 2016

<sup>24</sup> Since increased to 386 MW with the return to service of the CCGT at the TVPS.

<sup>25</sup> Gas can also be impacted by a loss of, or disruption to, gas supplies. As example of this was the explosion at the Longford gas processing facility in the late 1990s, which left Victoria without gas for 2 weeks.

### 3.8.5 CREDIBLE CONTINGENCY EVENT: LOSS OF MAJOR TRANSMISSION ASSETS

The output from Tasmania's generation assets, as well as electricity imported through Basslink, is delivered to electricity customers, including major industrial customers, via the electricity transmission network.

Currently, each state and territory government controls how transmission and distribution reliability is regulated and the level of reliability that must be provided.

In order to achieve the required level of reliability, transmission network companies (in Tasmania, TasNetworks) invest in assets to achieve a level of redundancy, usually expressed as *N-1* or *N-2*, to ensure that the effect of a fault or failure in a transmission component has a limited impact on customer supply.

In Tasmania there are transmission assets, such as the link between the Gordon power station and Chapel Street sub-station, where there is no redundancy, or alternative means to transport electricity in the event of a fault or failure.

The Gordon power station has a capacity of 432 MW. Therefore, loss of the Gordon-Chapel Street transmission line for an extended period would have a similar impact to the loss of Basslink or the gas transmission pipeline.

Such a loss could be caused by a number of events including but not limited to:

- fire damage;
- incorrect operation leading to the failure of a major component;
- earthquake; or
- malicious damage.

## 3.9 ACHIEVING ENERGY SECURITY IN TASMANIA THROUGH STRATEGIC PLANNING AND RISK MANAGEMENT

Effective business planning for any business, large or small, involves setting strategies and developing plans to achieve defined goals and targets, coupled with understanding the risks, which might derail the strategies and plans, and development of mitigating strategies based on defined risk appetite and risk limits.

Providing Tasmanians with safe, secure, reliable and affordable energy is a very complex business, but one which is less complex than other more sophisticated infrastructure or even most large multinational business. Management of Tasmania's energy markets and businesses demands effective long term planning and risk management, including striking the right balance between the cost of risk mitigation options and the potential cost associated with the occurrence of any event – or combination of events – considered credible contingency events. It is possible, but not probable, that three of the contingency events discussed above could occur at the same time. It is certain that two contingency events could occur at the same time, since it has already happened.

In its response to the Government's Energy Strategy Issues Paper, the TSBC suggested<sup>26</sup> that the contents of the state's energy strategy should include (but not be limited to):

1. A clear vision statement and objectives against which any proposed actions can be tested;
2. The vision statement would articulate, among other things, the Governments "green appetite", and the extent to which environmental outcomes should be balanced against cost;
3. Two sections – immediate/short term (1 to 5 years) and long term (6 to 20 years);
4. The challenges and opportunities in each section (1 to 5 years, 6 to 20 years);
5. Actions and responses to the immediate/short term challenges and opportunities, which must align with long term strategies;
6. A range of future (6 to 20 years) credible scenarios of supply and demand;
7. Analysis of lowest cost options to meet any projected supply shortfall and to optimise any supply surplus;
8. The projected mix of electricity generation, including replacement of existing plant, and the impact of local generation, in particular solar PV, rooftop and industrial;
9. The role of private investment;
10. An assessment of hydrological risk and the most cost effective means of mitigating that risk;
11. The results of economic modelling of each scenario against a range of parameters, including electricity prices, financial inflows and outflows to the State, and social equity outcomes;
12. The most economically efficient mix of electricity and gas to meet domestic and small business energy needs;
13. The role of technology – e.g., smartgrid; and
14. Actions proposed to address long term challenges and opportunities, based on the assessment of the most likely scenario.

The TSBC contends that these suggestions remain valid, even more so given the energy threats of 2016, and requires a strengthening of the point concerning hydrological risk, to include an assessment of all credible contingency events which could adversely impact energy supply. This includes the risk of a reduction of hydro capacity due to low storage levels, and the most effective means of mitigating those risks.

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*All decisions on mitigation investment should be informed by and flow from that analysis, and therefore, be defensible and transparent*

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The TSBC also contends that in identifying the most cost effective means of mitigating the risks associated with credible contingent events, the Government should clearly articulate how the cost of the chosen mitigation strategies will be met, whether by energy consumers, market participants or taxpayers. All decisions on mitigation investment should be informed by and flow from that analysis, and therefore be defensible and transparent.

The energy strategy should also articulate the Government's risk appetite and identify risk boundaries, which should then be reflected in the corporate plans of the SOEBs and the risk management strategies and governance arrangements for those SOEBs.

<sup>26</sup> P. 70, [www.stategrowth.tas.gov.au/data/assets/file/0007/92797/TSBC.pdf](http://www.stategrowth.tas.gov.au/data/assets/file/0007/92797/TSBC.pdf)

### 3.10 MANAGING HYDROLOGICAL RISK

The TSBC notes the extensive section in the Independent Review<sup>27</sup> devoted to hydrological risk management (Appendix 3, 14 pages). Of particular note is the description commencing on page 279:

*“Since 2001, Hydro Tasmania’s Ministerial Charter has required it to demonstrate the prudent management of its water storages. On the joining the NEM, Hydro Tasmania’s Prudent Water Management (PWM) obligation became the basis on which to advise the Government of emerging issues in the hydro system.*

*Hydro Tasmania’s PWM policy [see Figure 5] uses a series of ‘triggers’ to indicate the increasing risk to security of supply, based on risk levels associated with water levels and potential contingency events, which include a major Basslink outage or major hydro-plant failure. Under the PWM policy, storage management rules are designed to manage storages through low inflow periods.*

*The PWM defines a preferred seasonal minimum operating level and then medium, high and extreme risk zones. These risk zones indicate an increasing risk of supply failure, with the extreme case having both a higher probability of load curtailment, as well as significant environmental consequences. ...*

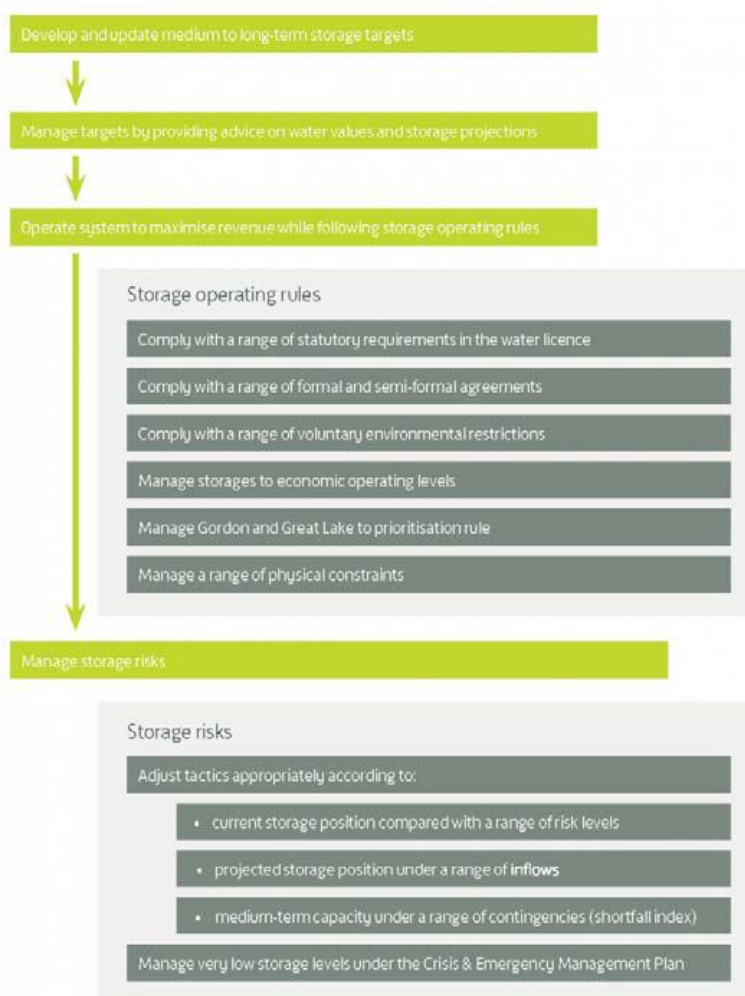
*Hydro Tasmania also defines a shortfall index based on the number of days that load can be met in circumstances that:*

- *Basslink is not available;*
- *there is no generation from wind or thermal production; and*
- *inflows are very low.*

*As this index falls, various actions are undertaken to address the commensurate increase in risk, including communication with stakeholders to allow external responses, if required. An index of 60 days or greater indicates that there are no material issues with meeting demand.”*

<sup>27</sup> Electricity Supply Industry Expert Panel, *Final Report*, March 2012

Figure 5: Hydro Tasmania's Prudent Water Management



Source: Electricity Supply Industry Expert Panel, *Final Report*, Appendix 3, March 2012

The TSBC is concerned that by following the methodology for managing hydrological risk described in the Independent Review, including the section quoted above, which identifies the actions required to mitigate the lack of availability of Basslink and the TVPS, the energy threats of early 2016 should have been avoided.

It is noted that the lack of availability of the TVPS output should have resulted in a revision of the PWM policy, which (when implemented) would be expected to have flagged the need for the reinstatement of the TVPS capability given the extent of storage declines during 2015. It is also unclear how the PWM impacted the recommendation of Hydro Tasmania to sell the CCGT unit at TVPS, which was approved by the Government but conditionally on energy security being maintained.

A key action for the Taskforce should be to review the PWM policy and its application, in relation to the energy security threats of 2016, the risk of reoccurrence and future management of hydrological risk, and to require its updating as required. It should also review that basis upon which the decision was made to sell the CCGT at the TVPS to determine if this was consistent with the PWM policy and energy security.

# RESPONSE TO MATTERS RAISED IN CONSULTATION PAPER

- Energy Security
- Water Management of Hydro-Electric Scheme
- Interconnection with NEM
- Tasmanian Gas Market
- Renewable Energy
- Climate Change
- Scenario Planning



## 4

## Matters raised in the Consultation Paper

In this section, we provide our responses to matters raised by the Taskforce in its Consultation Paper. These responses focus on small business issues and impacts, though energy security is relevant to energy consumers in a broader sense. For convenience, we follow closely the structure of the Consultation Paper and the numbering of questions therein.

### 4.1 ENERGY SECURITY

A range of questions are raised under this topic in the Consultation Paper. Our responses to each of these follow.

#### Question 1: What are the specific risks to Tasmanian energy security that you think the Taskforce should consider?

TSBC considers that the following risks to Tasmanian energy security should be considered by the Taskforce:

- The energy constrained hydro system, which provides the bulk of Tasmania's electricity supply. This involves efficient and cost effective management of the hydro water resource so that it is optimised to provide an affordable and secure supply of electricity to the people of Tasmania and minimises the risks of future energy security emergencies.
- That Hydro Tasmania's risk assessment levels intended to maintain a secure supply of electricity with minimal risk of disruption, including its "preferred operating minimum", which was reduced from 30 per cent storage level to 25 per cent, and the energy storage level, which was reduced from 10,000 GWh to 9,000 GWh, are appropriately set and managed (noting that HT is reviewing these levels)
- The risk of and potential for conflicts or tensions between Hydro Tasmania's role as a commercially focused GBE with a key objective to "be a successful business operating in accordance with sound commercial practice ... and ... achieve a sustainable commercial rate of return" and its energy security role to "prudently

manage its water resources with the long term energy capability of its system”.<sup>28</sup>

- That the future role for gas-fired generation generally and of the TVPS specifically, in helping to ensure Tasmania’s future energy security, is prudently assessed. This includes determining its cost to hold, run and maintain and how this compares with other energy security options, such as alternative forms of generation, Hydro Tasmania’s PWM and demand side response.
- Determining an appropriate role for large scale wind generation, other forms of renewable energy and energy storage technologies in future energy security, including the impact of intermittent supply, the high cost of these technologies, the impact of the Renewable Energy Target (RET) and how they compare to alternatives.
- The risk of another prolonged failure of Basslink, including needing to robustly assess the probability of this occurring, the time to repair, learnings from the recent failure and the repair delays experienced, evidence from the failure of other undersea DC links, any likelihood that Basslink’s reliability or performance will deteriorate over time and the

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*Hydro Tasmania’s risk assessment levels are intended to maintain a secure supply of electricity with minimal risk of disruption*

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availability of parts and material with which to effect repairs.

- The impacts on energy security of a decision to construct a second Bass Strait interconnector, the likely substantial time before commissioning of such a link, its cost (likely to be considerable) and how this compares to other options.
- Risks to energy security/reliability at the transmission and distribution level, noting that whilst the focus of the recent threat was at the generation level, the electricity system operates as a series of energy supply linkages with interdependencies between them.
- The risks to energy security inherent in the lack of maturity and competition in the Tasmanian electricity market, for example, Hydro Tasmania’s dominance of the generation sector and what this means for energy security (noting, for instance, that when Aurora Energy owned the TVPS it was in continuous operation and provided a competing source of generation, whereas Hydro Tasmania has rarely used it).
- The risk that the gas market as an alternative source of energy that can help to mitigate Tasmania’s reliance on electricity (in 2011/12, 51 per cent of industrial energy used in Tasmania was electricity

<sup>28</sup> Ministerial Charter – Hydro Tasmania, November 2012.

- and only 7 per cent natural gas) and therefore its exposure to energy security problems from a single source of energy is not being given due recognition or allowed to realise its potential for growth.<sup>29</sup>
- The single undersea gas pipeline into Tasmania, which increases energy security risks in both the gas and electricity markets should it experience disruption or failure and what option might exist to ameliorate this risk (e.g., gas storage possibilities, line-pack or development of Tasmania's gas resources).
- The risk of changes in rainfall and climate, which may have an important impact on the ability to harvest water resource in

future, with Hydro Tasmania reporting a significant reduction in rainfall and catchment inflows over the past two decades.

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*In 2011/12, 51% of industrial energy used in Tasmania was electricity*

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- The Tasmanian electricity and gas sectors are both subject to energy security/emergency procedures and governance arrangements (at the NEM and State levels) and these should be closely examined by the Taskforce to ensure they are well placed to play their part in the management of energy security threats.

Many of these points are covered in greater detail in Section 3.8

## Question 2: What risks are acceptable to you or your business in terms of energy security and the risk/cost trade off? How well are you or your business able to manage energy supply disruptions?

As outlined in Section 1.3, small businesses tend to be reliant on electricity in order to go about their business and interruptions to supply can potentially be very costly, even if electricity is not a major input cost. This suggests that the risks attached to energy security are high for small business. Moreover, generally small business has difficulty managing the risks of energy supply disruptions for both electricity and gas, but especially the former (due to its pervasiveness and its use in critical functions, such as cash registers, lighting, IT, refrigeration, heating, core machinery and equipment, etc). Also, it is not always the case that small business

has ready access to alternative sources of supply, such as stand-by generation. This makes it more difficult for them to manage supply disruptions.

Indications are that small business in Tasmania places a high value on security and reliability of electricity supply. Whilst focused on reliability,

satisfaction surveys and focus groups undertaken by TasNetworks show that reliability and restoration of supply are their most valued services, but also that customers are

generally satisfied with existing levels of reliability and are not prepared to pay more for

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*This suggests that the risks attached to energy security are high for small businesses*

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<sup>29</sup> For an assessment of this potential see Goanna Energy Consulting, *The Tasmanian Gas Market*:

*Building the Pipeline to Opportunities*, Report to the TSBC, August 2016.

improvements in these levels.<sup>30</sup> Whilst a lack of security of supply can involve higher risks, such as a threat of system-wide and longer outages, there are some learnings from these results that are relevant as security of supply involves a similar trade-off between physical supply and what it costs to maintain. It also involves considering the pragmatic issue of the community's strong dislike of electricity price increases. Gold plated energy security is unlikely to be affordable.

This is not to say that small business would not support changes to existing arrangements, or adopting additional low cost ways, of avoiding circumstances such as the recent threat to Tasmania's energy security. We note that some

such measures could be available through improving decision-making on energy security to make it more efficient, effective and accountable.

Small businesses deal with risk on a daily basis and they generally recognise that less risk usually entails a cost and through this trade off there will emerge an optimal level of risk and cost. We believe that this is what the Taskforce should aim to achieve for Tasmania as a whole with energy security. Whatever options the Taskforce comes up with, they should be clearly and transparently laid out for all to see along with their costs and impact on energy prices. We look forward to responding to the interim decisions on this with further specific comments.

**Question 3: What level of reliable electricity supply is required by customers? Do customers consider reliability should be as close as possible to 100% at all times, or would, for example, reliable supply suggest closer to 99% if the cost is significantly less?**

We interpret this question to refer to energy security rather than reliability. We note that the latter refers to delivering electricity to a certain standard of reliability (e.g., how often supply is lost and for how long), whereas an energy security breach refers to a failure to deliver electricity at any standard. Generally, customers want a high level of energy security that reflects a developed economy with a high standard of living and electricity use that supports this. Small business is no exception.

One issue for the Taskforce is that not all customers have a homogeneous view on what level of energy security is acceptable. As the electricity (and gas) systems run to a large extent as common services with homogeneous output,

this raises difficulties in meeting the expectations of each customer. That is, it is difficult to guarantee absolute energy security to a customer desiring this (and prepared to pay for it) and, at the same time, a lower level to another customer prepared to accept this (and wanting to pay less).

As mentioned in answer to the previous question, we believe that the overall levels of energy security provided in Tasmania are generally acceptable to small business for most of the time and that they are not seeking to pay more for improvements. However, they are seeking to avoid threats such as the recent one, which may not entail significant cost.

Regarding the issue of whether customers would be find a lower level of energy security

<sup>30</sup> TasNetworks, *Tasmanian Distribution Regulatory Proposal*, 29 January 2016, p. 7.

acceptable, some may, especially if the cost is significantly reduced but others may not. This is essentially a pragmatic issue that will require research of customer preferences to help

determine. The Taskforce may have in mind to undertake such research?

#### Question 4: How well are Tasmania's energy security risks understood and communicated to the community?

We are inclined to the view that Tasmania's energy security risks are understood at only a basic level by the community. This also applies to small business. The complexity of energy security makes it more difficult for the community to have a detailed understanding.

The recent threat and the media interest it generated would have greatly increased public interest in (and discussion of) energy security. In the process, levels of understanding may well have increased somewhat. Nevertheless, complexity would remain an obstacle.

However, it is quite possible that the general public are seeking a basic appreciation along with confidence that the Government and those in charge of energy security are managing it well and cost effectively. The public's benchmark may therefore be the threats such as the recent one do not arise, or, if they do, they are well managed. In this regard, management refers to avoidance measures being in place, the lead up to any threat, actual management of an event and its timely, efficient and cost effective resolution.

This also has an important communication aspect whereby the community is provided with timely, clear, concise, open, easy to access and

transparent information about energy security matters, and the management of threats. This is an important way to instil public confidence and avoid undue public angst.

We would suggest that the recent threat to energy security was well handled in some respects and that the formation of an Energy

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*The community is provided with timely, clear, concise, open, easy to access and transparent information about energy security matters*

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Supply Plan with regular updates and direct involvement of the Minister and the highest levels of Hydro Tasmania were appreciated. Nevertheless, some aspects could have been better handled, including the initial time taken for regular and transparent information to be made available and the apparent lack of preparedness of a contingency plan and communications strategy to deal with such events. The information provided by Basslink could also have been improved given their key role.

#### Question 5: What existing frameworks for assessing and monitoring energy security might the Taskforce wish to consider?

The TSBC believes that the starting point for considering this should be the existing frameworks being used in Tasmania and assessing

how well they are working. This should be compared to other frameworks used elsewhere in Australia and internationally, especially ones that

make significant use of hydro-electric generation, so that some benchmarks can hopefully be established and lessons taken.

We have no particular reasons to believe that the existing assessment and monitoring framework in Tasmania is seriously deficient. Indeed, the high level of energy security generally delivered over a long period of time strongly supports that it is not under most circumstances, but the recent events may well have exposed some gaps that need to be closed. It should also be kept in mind that whilst the recent threat to energy security experienced in Tasmania did not actually result in any forced load shedding, it may well have come dangerously close to doing so. Minimising the likelihood of repeats and ensuring preparedness should be important objectives.

Hence, the recent threat points to a need to review the framework to close any gaps and identify areas for improvement. This applies particularly to the PWM system, recent decisions that have seen a decline in target levels of energy storage, the influence of apparently sustained declines in rainfall and whether risks such as the prolonged outage of Basslink and future of the TVPS were properly considered.

We firmly believe that Tasmanian small business and electricity consumers more broadly have an expectation that a reality check will be undertaken in the wake of the recent threat. Clearly, the Tasmanian Government has established the Taskforce with a Terms of Reference to support such a review.

## Question 6: Which potential energy security solutions should the Taskforce consider?

These matters are mostly covered in Section 3.8 of this submission. In sum, TSBC believes that in determining energy security solutions, the Taskforce needs to consider what future energy demand will be, what options there are to meet this demand and what the most cost effective solutions are. Overlaying this, there should be an assessment of the risks of major failures, how Tasmania ensures continuity of supply in these circumstances, determining the cost of the associated redundancy and at what level of risk costs become unacceptable. Purely for illustration, low inflows combined with Basslink failure and TVPS failure could be a risk not worth the cost of mitigating. By the same token, a standby contract

for gas supply to the TVPS, and the cost of maintaining its operational capability, would be expected to cost much less than a second Bass Strait interconnector, even if the contingency

TVPS was covering exceeded its capacity.

Given the projected (low) demand growth over the next 10 years, with AEMO not projecting a need for more generating capacity in Tasmania until

beyond 2025/26<sup>31</sup>, it is difficult to see why a combination of hydro, Basslink, wind, DSR and TVPS cannot meet projected demand with a sufficient buffer to cover at least two of the five credible contingent events referred to in Section 3.8.

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*The Taskforce needs to consider what future demands there will be, what options there are to meet this demand and what the most cost effective solutions are.*

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<sup>31</sup> AEMO, Electricity Statement of Opportunities, August 2016, Table 1, p. 5.



Some additional issues that can impact on energy security solutions not covered above are:

- TasNetworks' on-island transmission and distribution systems should be examined for their impacts on energy security, as should the gas transmission and distribution systems of Tasmanian Gas Pipelines and Tas Gas respectively.
- Tasmanian electricity tariffs contain cross-subsidies, which favour electric heating and roof-top solar at the expense of small business.<sup>32</sup> These distort resource allocation with one outcome being more than optimal use of electricity for heating.

This increases demand which, in turn, can have an impact on energy security risks.

- In addition, tariffs are currently heavily weighted in favour of consumption based charges and away from fixed charges, which distorts network investment signals. Aurora and TasNetworks are currently embarking on a series of reforms to their tariffs designed to gradually remove cross-subsidies and orient tariffs more towards fixed charges, changes that the TSBC broadly supports. We believe that such changes could also assist in the pursuit of energy security by removing distortions in demand and improving network investment decisions.

## 4.2 WATER MANAGEMENT OF TASMANIA'S HYDRO-ELECTRIC SYSTEM

Given Tasmania's heavy reliance of hydro-electric power, water management is critical for energy security and we respond to the Taskforce's questions on this below.

### Question 7: What international examples of water storage management practices should be considered by the Taskforce when reviewing Hydro Tasmania's approach?

The TSBC does not have access to detailed information on international water storage management practices but has no reason to believe that Hydro Tasmania's practices are not up to standard.

Nevertheless, the obvious examples for consideration by the Taskforce would seem to be other electricity systems with significant hydro-electric capacity. Examples could

be found in New Zealand, Ontario, parts of the United States and Scandinavia. We welcome that the Taskforce intends to examine international best practice in water management and its

approach of comparing this to the approach in Tasmania (whilst recognising that Tasmania's hydro system has some unique characteristics).

*The obvious examples for consideration would seem to be other electricity systems with significant hydro-electric capacity.*

<sup>32</sup> A forthcoming report by Goanna Energy Consulting and commissioned by the TSBC will examine the cross-subsidies in Tasmanian electricity tariffs.

### Question 8: What governance arrangements might be useful to consider in strengthening water storage management in Tasmania?

We believe that Hydro Tasmania has essentially sound and prudent arrangements for the management of Tasmania's hydro resource. In particular, it has considerable expertise and experience in managing a hydro-based system, and appears to have generally sound modelling and other techniques. These provide a basis for reasonably accurate measurement and management of its water resource. The main issue we see with the current arrangement is that it creates a potential for conflict of interest and tension between

optimising the hydro resource for energy security purposes on the one hand, and with Hydro Tasmania's commercial imperatives as a GBE and its Ministerial Charter on the other. Whilst the Charter also refers to the need for Hydro Tasmania to prudently manage its water resources, it is not clear what it should do in the event of a conflict with its commercial orientation.

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*We believe that Hydro Tasmania has essentially sound and prudent arrangements for the management of Tasmania's hydro resource*

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The events that led up to the recent near emergency, which included the carbon pricing period, may be an example of such conflict. Hydro Tasmania's decisions to reduce its preferred minimum operating level at 1 July each year from 30 per cent to 25 per cent and its energy in storage from 10,000 GWh to 9,000 may also be indicative of a priority being placed on commercial imperatives over energy security. Some have suggested that Hydro Tasmania's behaviour in the lead up to, during and after the recent carbon price period,

did not focus enough on energy security but rather had maximising revenue from the carbon tax as its main purpose. It is further suggested that this contributed to a run down in storages to levels that later compromised its ability to meet the emergency threat resulting in the need for costly emergency generation contingencies.

We believe that the Taskforce needs to carefully consider this matter and welcome the comment that "the Taskforce intends to review Hydro Tasmania's storage strategy"<sup>33</sup> as we do Hydro Tasmania's internal review of its strategy.

*Option for change range from minimal to more fundamental reforms and include:*

- Ensuring that Hydro Tasmania takes a more conservative approach to water management in future by, for example, setting its minimum preferred operating levels and annual budget for electricity in storage at higher levels (noting that Hydro

Tasmania is examining this internally and in the interim has said that it will bring storages up to 40 per cent and keep them at that level until January 2017).

- The Government clarifying Hydro Tasmania's obligations under its

<sup>33</sup> Tasmanian Energy Security Taskforce, *Consultation Paper*, p. 8.



Ministerial Charter, so that there are clearer directions for where there is potential conflict between its commercial and water management responsibilities; and clarifying that it has an energy security responsibility and what the reach of this is.

- Internal ring fencing Hydro Tasmania's water management and energy security responsibilities from its commercial ones.
- Separation of Hydro Tasmania's commercial electricity generation activities from its energy security and water management responsibilities, with

the latter transferring to a new dedicated entity. The possibility of splitting Hydro Tasmania's generating operations into three separate electricity trading entities, as recommended by the Expert Panel, could also be reconsidered as this may complement the separation of water management and would drive the need for more electricity competition.

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*In the interim, (Hydro Tasmania) has said it will bring up storages to 40% and keep them at that level until January 2017.*

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No doubt the further deliberations of the Taskforce would help to clarify which approach to governance is most appropriate. We look forward to considering and commenting on this.

### 4.3 INTERCONNECTION WITH THE NEM

The TSBC recognises that interconnection with the NEM can have important implications for energy security and how energy security risks can best be mitigated. Our submission commented on this in relation to Basslink and a possible second Bass Strait interconnector in response to Question 6 (Section 4.1). Below we provide further commentary specifically in response to Question 9 in the Taskforce's Consultation Paper.

#### Question 9: What economic opportunities and risks are there for Tasmania associated with a second Bass Strait interconnector, and how would it improve Tasmania's energy security?

A second link across Bass Strait could allow Tasmania to benefit from differences in wholesale electricity prices between Tasmania and Victoria, exporting its energy to take advantage of high prices in Victoria and importing when Victorian prices are low. It could also stimulate the development of additional wind energy in Tasmania, which would have access to a larger market for its energy. We doubt that it would have a significant

net impact in reducing Australia's carbon emissions as the Large RET is set up to encourage a capped amount of renewable energy (mainly wind) and a second Bass Strait link would merely alter its location if it is more economically built in Tasmania. It could have some impact in

lowering the cost of abatement if Tasmanian wind resources are more efficient.

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*Building a second link will be very expensive (reports suggest around \$1billion)*

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On the other hand, building a second link will be very expensive (reports suggest around \$1 billion) and will need to be paid for by users, or beneficiaries, which could include Tasmanian electricity generators and consumers benefitting from lower spot prices and additional energy security. It will also take a long time before such a link is built, probably the best part of a decade. The lack of load growth in Tasmania means that there is no need for such a link to provide more import capacity and there is unlikely to be for a long time.

From an energy security perspective, it is not at all clear that a second interconnector provides the

best option. To begin with the cost seems likely to be far too high, especially when alternatives, such as the TVPS and Tasmania's gas network, have already been built, and given that changes to existing water management practices could also benefit energy security, but would come at a fraction of the cost of a second link.

Given the uncertainties that still surround a second link across Bass Strait, which will not be resolved within the time frame for this review, it may be difficult for the Taskforce to make this a major consideration in its recommendations, which should be, by its very nature a process centred on removing uncertainty and risk.

#### 4.4 THE TASMANIAN GAS MARKET

We have referred to the role of the Tasmanian gas market in energy security in response to Questions 1 and 6 above (Section 4.1). Below we offer additional commentary for consideration by the Taskforce specific to Questions 10 and 11.

#### Question 10: How might the Taskforce consider the role for gas generation in Tasmania relative to other options to maintain energy security and the associated costs and risks?

The TSBC believes that gas generation ought to be considered by the Taskforce as a potentially important energy security option. But it should be compared with other options that can provide energy security to Tasmania. That is, it should be able to make a meaningful and reliable contribution, and at a lower cost than alternatives given the level of energy security sought. An ability to offer some diversity (for purposes of spreading risks) may also provide value, though this should be balanced against its costs.

The TVPS has delivered energy to Tasmania in a highly reliable way and presumably would continue to do so (as needed). This includes its more-or-less continuous operation during the recent energy security threat. We note that the Expert Panel concluded that the TVPS had value as an energy security option (and as a source of

generation competition) and recommended a number of options for its future ownership, including sale to a separate owner, with transfer to Hydro Tasmania being seen as an inferior

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*Gas ought to be considered by the Taskforce as a potentially important energy security option.*

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option.

One key unresolved matter in terms of its future use is the end to the existing gas supply contract in December 2017 and what succeeds it. We discussed this matter in answer to Question 6 (Section 4.1). Suffice to say here that Hydro Tasmania should make clear as soon as possible

what its plans are regarding future gas supply to the TVPS. This will help to alleviate the uncertainty that currently exists and allow the Taskforce to undertake a better informed assessment of the future role of gas generation in Tasmania's energy security, including its likely costs.

The Consultation Paper mentions the important role that gas generation plays in Tasmania's gas market. This includes significantly increasing demand for gas when the TVPS is operating (though even at this level the TGP is still greatly underutilised). The 'take or pay' nature of its existing gas contract also helps to spread the costs of the pipeline across a large contracted quantity of gas, which benefits all Tasmanian gas users. This is obvious from the fact that the total demand for gas by the TVPS in Tasmania can be up to 20 PJ annually, whilst the two largest industrial users consume 2.8 PJ, other large industrial users around 1.9 PJ and small business and residential

consumers 0.76 PJ. A significant change in the TVPS's role in the gas market – say due to a cessation of its 'take or pay' arrangement – would significantly increase transportation costs for remaining gas consumers. If this is significant enough it could have further knock-on effects, especially on large industrial consumers, who

tend to compete in international markets and are therefore sensitive to costs. There could be a contagion effect as they also reduce (or cease) their gas demand or are forced

to scale back or close their operations. The impacts of this on the Tasmanian gas market could be catastrophic, with remaining demand not sufficient to make it viable.

Whilst these are not solely energy security matters, they could have an impact on energy security and should be carefully considered by the Taskforce, including the linkages between the electricity and gas markets and how to optimise energy security between them.

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*The total demand for gas by the TVPS in Tasmania can be up to 20 PJ annually*

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### Question 11: What can be done to strengthen the Tasmanian gas market without significantly subsidise from Government and costs on taxpayers or consumers?

Natural gas provides an alternative source of energy for Tasmania and this diversification can have a beneficial impact on energy security by offsetting to some extent the risks of relying too much on electricity. However, the natural gas market in Tasmania is tiny and presently offers very limited diversification.

The TSBC has recently released a report it commissioned from Goanna Energy Consulting on the Tasmanian gas market and its implications for

small business.<sup>34</sup> This concluded that the following measures are needed in order to strengthen the Tasmanian gas market (or not weaken it further):

- Increase the penetration of natural gas into Tasmanian households and businesses. This currently stands at 5 and 2 per cent respectively (or 10 and 5 per cent where connection is available).

<sup>34</sup> Goanna Energy Consulting, *The Tasmanian Gas Market: Building the Pipeline to Opportunities*, A report for the TSBC, August 2016.

- Expand the gas network so that gas is available to more Tasmanians. Connection is currently only available to 43,000 premises (compared to 270,000 electricity connections) and 7,500 businesses (28,000 businesses are connected to electricity), which is far lower than in other southern gas markets. The report identified seven parts of the State where expansion could be worthwhile (subject to confirmation through the development of business cases).
- Improve the attractiveness of the market to new entrant retailers. This relies on greater gas market penetration, more competitive gas prices and measures to facilitate more competition in the (larger but related) electricity market.
- Gas transportation charges (transmission and distribution) were very high and measures to reduce these would stimulate the market. The beneficial impact of market growth in increasing network utilisation – a significant cause of high transport charges – and spreading fixed costs more broadly was emphasised

This question was framed in the context of measures that did not involve significant subsidy from Government and costs on taxpayers or consumers. Unfortunately, the TSBC does not believe that the Tasmanian gas market can be strengthened by relying on market measure alone. The report we commissioned found that this will take too long and would be too uncertain in its impact. Meanwhile, the gas market could fracture and be at risk of failing.

Accordingly, the report found a need for a mix of policies to stimulate the gas market, especially

as was the need to review the current unregulated status of monopoly gas networks.

- We have already discussed the impacts of gas generation on the Tasmanian gas market in answer to the previous question and it clearly will have a significant impact on the future of the Tasmanian gas market.
- Measures to place downward pressure on gas prices such as market expansion, lower transportation charges and more competition. Tasmanian gas tariffs for business consumers are amongst the highest in the land and there is virtually no discounting of gas prices in Tasmania, unlike other jurisdictions.
- A major review of the gas market by the Tasmanian Government is needed. The market has not been subject to a review since its inception.

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*Connection is currently only available to 43,000 premises (compared to 270,000 electricity connections)*

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targeted (but limited) government financial support by way of connection and network expansion incentives, similar to those used when the market was established. It was also noted that Federal support could be sought, as is the case with a gas market roll out in regional Victoria. It was further noted that Federal Government support was secured (to the tune of \$6 million) for an extension of the Tasmanian gas network from Port Latta to Smithton, where it would have supplied a range of industries such as dairy and food processing. However, this faltered apparently due to an attempt by the TGP to

increase its shipping charges to use the extension by 200 per cent above existing charges (in order

to recover some of the decline in its revenue following the then expected closure of the TVPS).

#### 4.5 RENEWABLE ENERGY AND EMERGING TECHNOLOGY

We have referred to the role of the renewable and emerging technology in Tasmanian energy security in response to Questions 1 and 6 above (Section 4.1). Below we offer additional commentary for consideration by the Taskforce specific to Questions 12 to 17. Our comments in this section relate to non-hydro renewable generation technologies.

**Question 12: How could the potential expansion of renewable energy generation in Tasmania help long term energy security without creating increased costs for consumers?**

The RET operates as a nation-wide Federal scheme with electricity consumers charged on the basis of their consumption of electricity. As such, there will be state differences between where renewable energy is located (presumably based on factors such as the efficiency of the local wind resource and proximity to grid connection) and where revenue is derived. In Tasmania's case, it has a significant wind resource that would be attractive to developers, though its geographic separation from the NEM may offset these advantages in the absence of sufficient interconnector capacity. On the other hand, its small population and electricity consumption mean that it pays only a small proportion of the RET subsidy. Hence, it is possible that consumers in other parts of the NEM could be paying most of the subsidy to Tasmanian wind farm developers. As such, any significant increase in renewable energy generation in Tasmania may be funded disproportionately by electricity consumers outside of Tasmania. To this extent, expansion in renewable energy in Tasmania may not have a significant impact on increasing electricity costs for Tasmanian consumers.

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*In Tasmania's case, it has a significant wind resource that would be attractive to developers.*

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The Taskforce should also consider that renewable energy is intermittent which can affect its reliability and the likelihood that it will be available to generate when required. This means that more renewable capacity is required to deliver a certain amount of energy. Furthermore, to overcome this there could be a need for thermal backup and wind energy can also create a need for additional ancillary services. These factors all tend to increase the costs of renewable energy generation to consumers.

TasNetworks has also identified connection and integration issues, as noted in the Consultation Paper.

These subsidies provided to renewable energy are also uncertain in terms of how long they will continue and tend to be subject to periodic scrutiny and review.

The Taskforce should weigh up all of these factors in assessing the role of renewable energy generation in Tasmania's future energy security, as well as how renewable options compare to others. Other things being equal, for consumers the best outcome is one that makes use of the least expensive option first.

### Question 13: Which renewable energy technologies and products present the best opportunity for Tasmania and why?

Within the context of renewable technologies, the TSBC is of the view that those renewable technologies that offer the lowest costs, are most reliable and are most mature would offer the best opportunity for Tasmania. We note that the RET tends to support such technologies. However, we reiterate our earlier comments that all renewable technologies capable of further expansion (even mature ones such as wind) tend to come at a higher cost than, and are not as reliable as, conventional generation sources. As renewable generation, such as wind, expands it can also use up the most efficient renewable resources and best locations in terms of grid proximity so that its efficiency declines and the costs increase.

We do not believe that Tasmania should focus on new or emerging technologies for energy security purpose as they are unknown in term of what they can offer, are riskier and will almost certainly come at a higher cost.

Demand Side Response (DSR) and embedded generation/cogeneration should be considered for a role in energy security. If DSR were already part of the market, it would be available to help offset any unexpected loss of generation. Hydro Tasmania (or TasNetworks in the case of grid support) could negotiate standing commercial contracts with counterparts able to provide a DSR in circumstances where supply is a risk. We note that some of Tasmania's MIs may be able to provide DSR. Interestingly, DSR has been a part of the Victorian electricity market since its establishment, with Alcoa's load reduced when supply is short and/or pool prices are very high.

Australia also has a number of demand side aggregators who negotiate commercial load reduction arrangements with electricity users,

though they have tended to be more successful in Western Australia's capacity market. However, with the AEMC involved in a series of reforms and rule changes which could assist DSR, the Taskforce should examine its usefulness for energy security purposes.

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*Demand Side Response and embedded generation/cogeneration should be considered for a role in energy security.*

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Regarding embedded generation/cogeneration, Tasmania has a number of cogeneration facilities that may be able to provide an additional source of generation to assist with emergencies. Although cogeneration continues to face obstacles including low electricity prices, network connection difficulties, ownership and control tensions, regulatory hurdles and gas issues (as gas is often used as a fuel), it would be useful for the Taskforce to consider whether it could play a more important role in Tasmania's future energy security.

Measures that lower electricity consumption could conceivably also be deployed to assist in lowering the risks to energy security. In particular, electricity consumers may have an ability to save on energy through energy efficiency. Some small businesses may be able to assist, but often lack the up-front funds, incentives or knowledge to do so. Small business is likely to respond if they can save money through energy efficiency efforts.



### Question 14: Is there a limit on the level of intermittent renewable generation that Tasmania can sustain without affecting the reliability of the network, or requiring significant cost to strengthen the network?

We note the commonly expressed view that renewable generation invariably has intermittent characteristics and that this will limit the ability of the grid to sustain more renewable capacity. It can also have impacts on how the grid is operated and optimised. This can require additional

expenditure to strengthen or change the configuration of the grid. We are uncertain as to precisely how this might impact on Tasmania. Presumably the Taskforce has access to experts in this area, such as AEMO, who will be able to answer this question in more detail.

### Question 15: Are there material barriers to the take up of emerging energy products and services in Tasmania?

Potential barriers could include:

- Tasmania's small electricity market, which makes economies of scale more difficult and its geographic isolation from the mainland, requiring the building of (expensive) undersea interconnectors to overcome.
- The lack of a competitive electricity market in Tasmania, so that there is potentially less ability to innovate and less scope to market products and services.
- Being a small state, there could be less infrastructure and other support available, which could impact its potential for the development and roll out of electric vehicles, as an example.
- Tasmania may have fewer resources in some areas, such as less sunlight and a cooler climate (relevant to solar technologies), or there may be uncertainty about resource availability and productiveness for others (e.g. wave or geothermal).

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*Demand Side Response and embedded generation/cogeneration should be considered for a role in energy security.*

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For the Taskforce to be able to assess barriers robustly, it would need to have access to expected changes in the costs of such technologies and consider cross-over paths.

### Question 16: Is there a timeframe where renewable energy developments could be more favoured in Tasmania than elsewhere?

Generally speaking, we do not believe this to be a significant consideration for the Taskforce and, as indicated above, Tasmania has some disadvantages when it comes to renewable and emerging technologies. However, one factor that could favour Tasmanian renewable energy development is the construction of a second Bass Strait interconnector which would help to unlock

potential for such developments by expanding their market. However, this is likely to take some time (perhaps a decade or more) and it would be costly. Renewable developers should also be required to pay the full cost for their use of such a link, which could diminish the attractiveness of Tasmania to them.

As mentioned in the Consultation Paper, the timing and extent of many renewable energy developments remains unclear. As this increases risk and uncertainty, it suggests they do not have a significant place in energy security settings but might become more significant over time. We

note that AEMO has indicated that renewable and emerging technologies, such as household battery storage and electric vehicles, will remain niche products with negligible impact on daily load profiles in all parts of the NEM in a 20-year outlook.

### Question 17: What impact will the national commitment to reduce carbon emissions have on renewable energy development in Tasmania and in the wider NEM? implications for energy security in Tasmania?

The Federal Government has committed to Australia reducing its carbon emissions to 26-28 per cent on 2005 levels by 2030. It has also said that this target is achievable through its Direct Action policy. At this stage, the TSBC believes that the RET will continue to have more impact on renewable energy developments in Tasmania than the national commitment. However, as mentioned in the Consultation Paper, there is always the prospect of changes to the RET (or carbon policy), which could greatly influence future renewable energy opportunities. This adds uncertainty to energy security settings.

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*The Federal Government has committed to Australia reducing its carbon emissions to 26-28% by 2030.*

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Whilst much of the 'heavy lifting' for the national target is likely to fall on stationary energy and

Energy Ministers are examining how this can be achieved, the outcome remains unknown.

Accordingly, we suggest that at this stage considerable caution is

needed about the national commitment playing an important part in Tasmanian energy security settings.

## 4.6 IMPACT OF CLIMATE CHANGE

The Consultation Paper seeks views on the impacts that changes in climate and climatic patterns might have on energy security considerations.

### Question 18: Are there other climate change related implications for energy security in Tasmania?

We note the comments in the Consultation Paper to the effect that, whilst there are a range of

predictions as to how rainfall patterns in Tasmania may change and how the frequency and



severity of storms, bushfires and floods might increase, there are uncertainties and challenges associated with integrating these into planning for energy security. If predictions were accepted that differed significantly from actual outcomes, they could put energy security at risk (if they overestimated rainfall, for example) or increase the costs associated with energy security (if they underestimated the amount of rainfall). As an illustration we draw attention again to Figure 4, which shows a declining rainfall in Tasmania.

We suggest that any predictions subject to considerable uncertainty be treated cautiously and that developments in these areas should be monitored. Tasmania could also consider contributing towards improving these predictions if this helps to reduce uncertainty. We support the Taskforce engaging with relevant agencies in this area.

#### 4.7 SCENARIO PLANNING

The Taskforce is intending to model credible scenarios in order to help it reach an informed view on long term energy security in Tasmania. We support this and recognise that it could benefit both the Taskforce's conclusions and the management of energy security in future.

**Question 19: Are there other scenarios with energy security implications in Tasmania that the Taskforce should be considering?**

We have examined the list of modelling scenarios contained in the Consultation Paper. The TSBC believes that they are useful to model but notes that some may present challenges in terms of uncertainties about them and a wide variety of outcomes being possible (e.g., significant changes in spot prices, rapid technological change in distributed generation and storage). We therefore suggest that sensitivity analysis should form part of this modelling.

In terms of other scenarios which might be considered, we would suggest potential changes in the Tasmanian gas market, including the removal of gas generation.

Moreover, it will be important to establish who will define what is acceptable, on what basis, how the cost/benefit trade off is being calculated, how that translates into prices and to ensure there is a high level of transparency around the inputs, outputs and outcome. We note that the Office of Energy Planning and Coordination in Tasmania no longer exists. The taskforce could give consideration to the need to re-establish such a body.

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*We would suggest potential changes in the Tasmanian gas market*

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# TASKFORCE RECOMMENDATIONS

- Energy Security
- Assessments and existing management practises
- Contingency plans
- Gas-fired generation role & options

## 5

## Our Recommendations to the Taskforce

We offer the following recommendations for consideration by the Taskforce:

### RECOMMENDATION #1

#### *Determine an acceptable level of energy security*

An acceptable level of energy security that contains least cost solutions and comes at the lowest possible cost to the Tasmanian community needs to be determined by the Taskforce.

### RECOMMENDATION #2

#### *Ensure risks are minimised and well-managed*

The Taskforce should ensure that the risks of a repeat of the recent energy emergency are minimised and well managed, so that the likelihood of such an eventuality being repeated is minimised and, in the event that it is, there are procedures in place to deal effectively and quickly with it.

### RECOMMENDATION #3

#### *Undertake robust assessments of existing energy security framework*

The Taskforce should undertake a robust assessment of the existing energy security framework in Tasmania to identify gaps and areas in need of improvement. However, electricity supply security does not appear to need costly or radical solutions, as it can rely on effective application of the PWM policy, using better hydrological risk assessments and adopting other cost effective energy security solutions up to the level of energy security sought.

## RECOMMENDATION #4

### *Quantify and prioritise potential energy risks*

The Taskforce should consider a range of plausible energy security risks and attempt to quantify and prioritise these. The credible contingencies discussed in Section 3.8 of this submission are relevant to this. Ensuring cost effective and efficient solutions is paramount.

## RECOMMENDATION #5

### *Provide clear and transparent options*

The Taskforce should ensure that its approach and options are clear and transparent, including their costs and impact on energy prices.

## RECOMMENDATION #6

### *Put contingency plans in place*

The Taskforce needs to ensure that Tasmania has an appropriate set of contingency plans in place to cover credible energy security threats that can be quickly activated if needed, that these are regularly reviewed and that they are accompanied by an effective communication strategy based on providing energy consumers and the public with timely and transparent information.

## RECOMMENDATION #7

### *Consider options to strengthen existing water Management procedures*

Regarding governance of water management, the Taskforce should consider options that include strengthening existing arrangements, so that the potential for conflict within Hydro Tasmania between its water management and commercial electricity generation functions is reduced; internal ring fencing of its water management from its commercial operations; and separation of water management into a separate entity, perhaps with additional separation of Hydro Tasmania's electricity trading functions into three entities, if this helps to minimise conflicts and improve energy security (noting that it will also improve competition and incentives for new retailers to enter the Tasmanian electricity market).

## RECOMMENDATION #8

### *Consider Gas-fired generation as viable option*

Gas-fired generation, specifically the TVPS, must be considered as an energy security option. It is reliable and has been used successfully in this role for a long time. Its absence would have a significant detrimental impact on electricity supply security unless other, more cost effective and equally reliable, options are available, which appears doubtful at present.

## RECOMMENDATION #9

### *Assess impact of TVPS on Tasmanian gas market*

The Taskforce should also take into account the important impact of the TVPS on the Tasmanian gas market. It has such a significant impact that the absence of a contract for gas supply post 2017 could increase gas transmission charges such that the Tasmanian gas market becomes unviable. This would harm energy security for gas and could well also do so for electricity.

## RECOMMENDATION #10

### *Consider the role of the gas market*

The Taskforce needs to consider the role of the gas market as a means of diversifying energy security risks and as an energy security issue in itself. The many challenges facing this market and its stymied development creates a situation where failure of the market is possible, unless there is remedial action. It may be necessary to provide limited financial support to ensure the continued viability of the gas market. In addition to energy security considerations, gas market growth, competition and attracting gas-based investment to Tasmania would benefit from such support.

## RECOMMENDATION #11

### *Consider what role wind energy offers for mitigating energy security risk*

The Taskforce should consider what scope wind energy offers for mitigating energy security risks, though its costs and limited availability would be limiting factors. Emerging technologies are simply too uncertain and costly. DSR, cogeneration and energy efficiency may be worthwhile for consideration and reforms being implemented at the moment may make them more attractive. However, for adoption as part of a suite of energy security solutions, these technologies and products will need to be shown to offer cost effective solutions.

## RECOMMENDATION #12

### *Avoid including climate related predictions with high uncertainty*

The Taskforce should avoid including climate related predictions that are subject to considerable uncertainty in energy security settings, but could support efforts to reduce predictive uncertainty, if they assist in providing energy security in a more cost effective way.

## RECOMMENDATION #13

### *Model credible scenarios on long-term energy security*

The Taskforce should model credible scenarios on long term energy security in Tasmania, including the scenarios listed in the Consultation Paper. In addition, it could model scenarios on the gas market and an absence of gas generation.

## RECOMMENDATION #14

### *Define roles and responsibilities for ongoing work*

The Taskforce should clearly define roles and responsibilities for long term energy planning, including ongoing work in modelling of and planning for energy security, to ensure an efficient approach to energy security going forward, including re-establishment of a dedicated agency, if this is cost effective and efficient.

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